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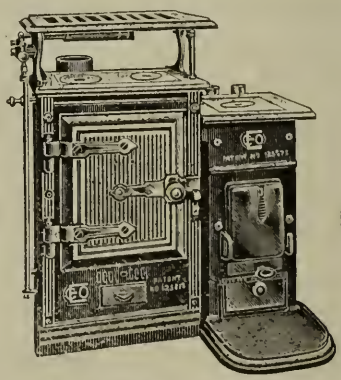

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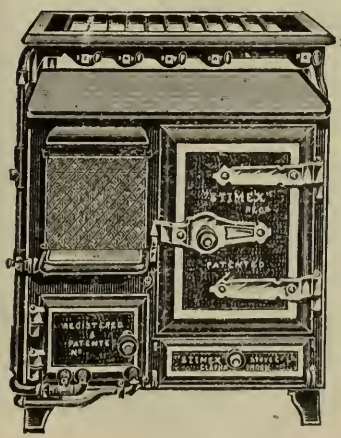

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CONGRESS AT BIRMINGHAM.

Inaugural Address by the RIGHT HON. VISCOUNT ASTOR, President of the Congress.

DEMOCRATIC Government needs clean hands and strong heads in its rulers, but equally it requires wisdom and comprehension among the governed.

More and more we realise that, whether we like it or no, political action cannot be far ahead of public opinion, and so I make no apology for dealing mainly to-day with the atmosphere of public thought that is necessary for the healthy growth of new standards and new methods of public hygiene.

It is nearly a hundred years since the foundations of a National Health Service were laid by Chadwick, Simon and the band of able, earnest men that they gathered round them. Democratic opinion as we understand it was almost non-existent. The constant pressure upon political action through Parliament, through the Press, through great organisations of Capital and Labour, was almost unknown. Consequently, Chadwick and his associates worked upon what we should consider bureaucratic lines, and the effect is seen in the highly centralised organisation of the Poor Law, which, as reconstructed and reformed, was primarily a health service. Yet it is curious to note that even then public opinion on the one hand resisted successfully some of the more advanced of Chadwick's proposals, and on the other, stimulated by the cholera epidemics, welcomed his measures for improving the environment of the community.

Cholera was a disease mainly caused by water polluted by sewage, and the health efforts of that day and for many years afterwards were mainly centred upon the improvement of communal environment. The shocking ravages of cholera and the revelations of several Royal Commissions showed in a glaring light the results of an almost entire neglect of the health environ-

ment of urban and even rural populations. The sanitary engineers came to the rescue of the nation. Water schemes, drainage schemes, housing improvements followed each other in rapid succession until it may be said, as a generality without particular application, that by the end of the nineteenth century communal environment had reached a very high level of achievement. The advance from the eighteenth century was indeed striking. Our water supply was a model for Europe ; costly drainage systems rendered harmless the refuse of vast agglomerations of population ; wide streets and large glass-filled windows were adopted ; above all things, we had a growing acceptance of the fact that the nation could not afford unhealthy towns and villages. The immense demands of our vast modern cities still present grave problems to our engineers. We have only to remember, for example, that where ten thousand people had a daily bath twenty years ago a million people expect to have one now, to realise how necessary it is to conserve our water supplies and how valuable is the consideration now being given to available resources and the most economical methods of utilising them.

We owe it largely to the skilled labours of our sanitary engineers that communal health is no longer a matter only for a particular community, but a subject upon which it is recognised that the nation has the duty and the right to require a minimum standard.

It is recognised that Smithborough has no right to have typhus fever, typhoid or smallpox, that the nation cannot afford and will not have it.

You will perhaps be asking yourselves why with this great advance in public sanitation we are still so far from a healthy nation. Why do nearly half our deaths occur under 50 years of age ? Why are only one in sixteen of our deaths due to old age ? Why do deadly diseases, such as influenza, strike down 100,000 victims in a few months, while medical science seems to stand by almost powerless ? One answer may be found in the immense crowding together of individuals which is part of modern civilisation. In trams, in trains, in omnibuses, even in the streets of our cities, every man and woman is constanly in contact with his or her fellows. Whether at work or at play the isolation of the individual is almost a thing of the past. We may struggle, as we do, to get more breathing space for our houses, more air and sunshine in our windows, to bring the country nearer to the town and the factory more into the country ; but the remorseless growth of population has us in its grip, and the complexity of civilisation interlocks even the peoples of distant countries. The daily, hourly contact of individuals presents comparatively new problems affecting modern health for which as a nation we have to find the solution.

Nor is this the only new factor with which we have to deal. There is,

indeed, a new world growing up around us, a world with new conventions, of changed social conditions, peopled by men and women of new outlook and with new ideas. Workers are getting higher wages and much more leisure. How they spend both their money and their time will have a bearing on national welfare. Through our Maternity and Child Welfare Centres we are teaching the value of pure food and infant hygiene. All who attend these centres know, for instance, the importance of safe milk, and they can help us to create a healthy public opinion in support of the Bill now before Parliament for securing better and cleaner milk. We need to bring home to the people that dirty or diseased or bad food is expensive and pure food is cheap by comparison.

The best use of increased leisure would, of course, require a paper to itself. But I hope the section here devoted to personal and domestic hygiene may have something to say on that subject. The street as a place of recreation is apt to lead to the door of the V.D. Centre ; health considerations alone will force us to provide more playing fields and open spaces, allotments and small holdings for our great urban populations.

I see that among the special subjects for discussion at this Congress are the falling birth rate, the teaching of sex hygiene, the still-birth problem, and industrial hygiene. All these questions involve an appreciation of the new and changing status of women. The free entry of women into new fields of endeavour creates fresh health problems, and may diminish some old ones. We may expect to see less nervous disease due to thwarted energies and sterile faculties, fewer idle people troubling the doctors with imaginary complaints, but, on the other hand, overstrain and the effect of mental and physical effort upon maternity will need careful observation. Some people are inclined to think that greater freedom is tending towards increased licence in sex relationship. We must avoid accepting war atmosphere or conduct, or the reactions after war, as normal. I do not believe that greater freedom will lower our moral standard in either sex. On the contrary, I hope that the greater sense of individual responsibility will raise it. We are passing through a transition period, when men and women brought up in former conventions have suddenly found many of the old barriers swept away. But, as time passes, what is novel and exciting to us will be commonplace to our children, and the ferment of new wine in old bottles will have passed away. Greater freedom implies greater responsibility upon the individual, and the nation's need at the moment is for a development of the social conscience in the individual. In a few years' time some two and a half million young people of 14 years and upward of both sexes will be spending together 8 hours a week for 40 weeks in the year in continuation schools,

and this great educational effort will, one must hope, temper the spirit of self-determination which is now so marked a feature of national life with a due appreciation of the fellowship of human beings ; an acceptance of the fact that no man or woman stands alone but only as one of a great community upon which every thought and act of every individual has an inevitable effect.

Medical science studying the conditions which I have so slightly indicated suggests the same lesson. The diseases of to-day are less community diseases and more contact diseases. Typhus fever is now almost unknown in this country. Typhoid is rare, smallpox, when it occurs, is generally traceable to infection from overseas. We must, therefore, look less to the community, to external environment, for the causes of national ill-health, and concentrate our efforts upon creating in the individual the same sense of personal health responsibility as now exists in the community for communal services.

Smithborough has no right to have typhoid fever, that is accepted ; what we have now to recognise is *Smith's responsibility to his neighbour if he has a cold.*

That may sound like an exaggeration, but it is the statement of a truth which opens a new conception of national well-being.

If the individual is to be the unit of a health service, if we are to think in terms of men and women instead of in terms of communities, it is clear that the basis of success must be co-operation between the individual and the State. The Ministry of Health can provide the means, but never the will to health. It is the business of the Government to organise and to provide the instruments of good health ; it is for the individual to utilise them.

The competent surgeon about to perform an operation finds at his hands a score of appropriate instruments, each designed for a particular use, but only his will and knowledge can make those instruments effective. The whole machinery of war provided with such forethought and labour with its tanks and aeroplanes, guns and howitzers, bombs and rifles, would have carried us no step nearer to victory without the courage, the determination and the trained knowedge of the men who used them.

So it must be with our struggle against disease and death. Medicines, vaccines, clinics, hospitals, a medical service, a nursing service are the organisation of war, but they cannot be functioned effectively without the conscious effort of the individual.

Everyone has, then, more or less direct responsibilities in matters of health. First, he has to keep himself well. That is a primary duty of citizenship. Secondly, he is responsible for preserving, as far as he can, the health of his family, his employees and his co-workers. Lastly, he must take his share in securing the welfare of the community in which he lives.

Alas, as we know too well, the possibilities of disease are almost omnipresent. The progress of science presents, perhaps, a more dramatic picture when it reveals the bacteria, the germs and all the other pests and plagues by which we are surrounded, than when it points only to the use of simple methods for their avoidance and defeat.

Fortunately, Nature is on our side, and just as a great gardener encouraged the struggling amateur by the reminder that every plant wants to grow and flourish, and will do so if it can, so we may take heart from the thought that the human body will be healthy if it can, and that Nature still provides the greatest instruments for the prevention of ill-health. The determining factor is, and will remain, the will of the individual and his readiness to use the means to health.

Among the greatest of "natural" aids to health are fresh air, sunlight, sleep and cleanliness; yet how unnaturally are they neglected! Walk along a street and observe the closed windows shutting out the air, the blinds barring out the sunshine, and in the evening weary little children losing precious hours of the sleep they need. In these matters alone how vast a field there is for the cultivation of knowledge, of a sense of individual responsibility and individual will. Nature, indeed, proposes, but man disposes with all his might and main.

But if this be true even of the great obvious natural aids to health, how much more is it so of the means provided by the State to meet the conditions of an artificial civilisation? Nature provides fresh air, the State requires windows, but only the individual can open them. The house may be small, even, alas, have too many occupants, yet its air can be fresher and purer than that of a half-empty mansion, and very often it is. Even in such a simple matter as fresh air science has made quite recent progress, and is teaching us that movement, freshness and coolness of air matters more than cubic capacity. The crew of our submarines lived and fought in practically no cubic capacity at all, yet they managed with an artificial current of air to maintain health and even good health.

Some critics of our new houses have complained that the rooms are too small, but, given a proper plan and adequate windows, they may have admirable ventilation, if the windows are open. With the assistance of science the State provides the means, but only the co-operation of the individual can make them effective in securing national health. The same considerations may be seen very clearly in the working of the Factory Acts. The factory owner is required to provide such things as ventilators and safeguards to machinery, but their effectiveness depends upon the use that is made of them. While no doubt it is true that the Factory Acts are inadequately

enforced or require extension, it is equally true that they are often rendered useless by the neglect of the worker. The guard to the wheel is there, but if a girl worker ignores the regulations to confine her hair appropriately, the guard may be entirely useless and her scalp torn off. The State can never compulsorily enforce maximum requirements ; it can but insist upon a legal minimum, looking to the public spirit and intelligence of employers and employed to advance beyond the minimum. But if the minimum requirements are neglected or misused it is hopeless to expect any improvement upon them.

Turning more especially to the organisations recently created by State effort to meet the health needs of the individual and to those which we have in view, the intelligence of the individual to appreciate their value and the will to make use of them are clearly conditions of progress. Maternity and Child Welfare Centres are springing up in increasing number, but this number could be doubled or trebled if a strong public opinion desired it. The fact is that there are still a good many centres which are not used to the limit of their capacity. The will to health developed in the individual and expressed in the community is what we wish to see ; and just as we want the individual to feel responsible for the health of himself and of his immedate associates, so we urgently require him to feel his responsibilities for the community in which he lives. The State has already granted to Local Authorities power to create Maternity and Child Welfare Centres, Tuberculosis Dispensaries, Venereal Disease Centres, and other special instruments for preventive and curative medicine. But just as in the case of the Factory Acts the minimum remains the maximum when existing facilities are not employed to their utmost, so we shall never see real progress in public health until existing centres are fully utilised and until the individual sets himself to secure for his own locality and for the whole community the advantages which the State offers and which experience shows to be of such incalculable value.

You may think, perhaps, that I have over-emphasised the responsibility of the individual in the maintenance of his own health, though I hope not, for it is really the keystone of the health structure which is slowly being created. Unless we have high ideals of national life we shall never reach even respectable achievements, and the more the whole area of ill-health is explored the clearer it becomes how much disease is altogether avoidable. The most obvious instance is, of course, venereal disease. It is really useless to establish clinics and to provide curative measures unless they are combined with a high standard of national morality. It is possibly true that there will always be a residuum of men and women who will fall victims to the

temptations of promiscuous intercourse and its results ; and it is for them, and for the innocent who suffer by them, that we establish preventive and curative measures. They are not, and must not become, a justification for a universally low standard of morality. Self-control should be our national ideal, not self-indulgence. Unless venereal disease centres and clinics are supported by a healthy public opinion and combined with education to that end they are but staunching a little a wound which can never be healed. The struggle is a hard one, but there can be no progress without a national realisation that it is right, and a universal determination to make it possible. The soldier who goes into battle without hope of victory is certain of defeat. To the individual, then, we look in this democratic country for the springs of hope and for the will to achieve a healthy nation. He creates the environment without which the Ministry of Health cannot operate, or at any rate operate with success.

The Ministry of Health was a co-ordination of departments dealing with public health. It is not, and never should become, a bureaucratic organisation forcing upon an unwilling people hospitals and clinics, doctors and nurses. The condition of our progress is an intelligent public opinion, a ready co-operation on the part of the individual. The business of the department is to organise rather than to provide, and to bring to the periphery the co-ordination that has been achieved at the centre.

It is a task that cannot be achieved in any short time. Perhaps it can never be fully completed. The problems before us have no easy solution, and what we do or fail to do acts and reacts upon almost every department of national life.

We have staked our faith in England upon local government, trusting, as all English statesmen have, to local men to meet local needs. But in finance, in the relation of areas to functions, in the nature and extent of devolution, we have matters to settle which vitally affect the working of the machine. Voluntary effort has achieved great things, and we cannot afford to risk the loss of any part of so great an instrument. But we must work as parts of a great whole, and not in water-tight compartments ; if we are to achieve co-operation of the right sort we shall need generosity, sympathy and patience.

It has been said with much truth, " Get your organisation right and the rest will follow." But, after all, character is greater than the machine, and it is upon the national character, upon the will and the intelligence of our people, that the future welfare of the country depends.

BODY AND MIND.

Lecture to the Congress, by Sir Frederick W. Mott, K.B.E., M.D., LL.D., F.R.S., F.R.C.P.

WHEN I was asked to give this Lecture, I considered what subject I could deal with to the best advantage from my own personal experience; as physician for thirty years to a large London hospital; as Pathologist to the London County Council Asylums for twenty-five years; and as chief Neurologist to the Neurological Clearing Hospital, London, during the whole of the War and since.

"Body and Mind" was the subject I selected, for this reason, that no real progress can be made in the study of the Mind, in health and disease, if either the mental or the bodily part of Man's nature is studied apart, one to the exclusion of the other; for they are indissolubly united.

The experience of the War and its aftermath has taught us one great lesson. That there is a large number of men and women who, owing to an inherent or acquired neuropathic temperament, are unable to make or sustain the necessary mental adjustments to enable them to be of military or civil worth in the military or civil occupations in which they have been or are at present engaged.

There is an After-Care Association which does admirable work in looking after the feeble-minded and those who have been discharged from Asylums, but what I think is of more importance is a Before-Care Association, to help the great army of inefficients suffering with no obvious bodily disease or defect, such are individuals suffering with neurasthenia, anxiety neurosis, psychasthenia, mild cases of mental depression and mania, hysteria, hypochondriasis and epilepsy. Also particularly those who are still suffering from the effects of shell-shock, hysteria and other War neuroses.

The functional paralyses, tics, tremors, blindness, deafness, mutism and other functional disabilities occasioned by the stress of war and emotional shock in neurotic or neuropathic individuals were, from a psychological point of view, biological protective reactions of the emotion of fear by unconscious suggestion, affording a mode of escape from an intolerable situation. Since these functional disabilities were produced by suggestion,

they could be, and were, cured by contra-suggestion and persuasion. I have been astonished at the ignorance of many of my professional brethren regarding the diagnosis and treatment of these functional cases.

At the Maudsley Hospital we have cured hundreds of soldiers and pensioners in a few minutes, a few hours, or a few days, who had been in hospitals and convalescent homes months or years, and who, owing to ignorance of diagnosis, had been treated for organic disease by massage and electricity, carried out frequently by sympathetic ladies on the " poor dear " principle, under the direction of medical practitioners unacquainted with neurological and psychological medicine.

Again, surgeons have treated numbers of functional orthopædic disabilities by the application of expensive and elaborate apparatus, often of the most ingenious nature. The result of their ingenuity, however, was only to suggest to the mind of the patient organic disease, and firmly instal the idea of the existence of a permanent disability and pension for life. The existence and cure of this class of functional cases is certainly as old as Christianity, and probably much older. Functional neuroses and psychoses exist among savages and primitive peoples in all parts of the world, frequently taking on a local colour.

NO NEW NERVOUS DISEASE IN WAR NEUROSES.

The war has produced no new nervous disease ; it is the same hysteria and neurasthenia which neurologists knew before the war, and which were curable by the same methods. A fact brought home to all those who have had the care of war psycho-neuroses is, that the signs and symptoms of hysteria and neurasthenia of men who have been to the front and have been invalided home (except those in which there has been definite evidence of cerebral or spinal commotion or concussion, burial or gassing) in no way differ essentially from the signs and symptoms of hysteria and neurasthenia of soldiers who have never been out of England. In support of this statement I may mention that I have seen both hysteria and neurasthenia arise from the fear of conscription, or, having been conscripted, an hysterical crisis, contracture or paralysis has occurred when it became known that the conscript would be in a draft for general service abroad.

Again, inoculation has been followed by hysterical paralysis. I may mention one case which was recently sent to me. He was inoculated in March, 1915, and a quarter of an hour after he lost the use of his legs. He was sent to various hospitals and brine baths. He was then boarded out of the Army and received a pension of £2 12s. per week for himself, his wife, and family. He was sent to me by the Chelsea Pensions Board, arriving with

crutches and a contracted knee. He was induced by contra suggestion and persuasion to walk in half an hour, and in a week was discharged cured.

I have observed that hysterical manifestations, especially mutism, paralysis and contractures, are much more frequently met with in the men than in the officers. The latter more often suffer with an anxiety neurosis.

Severe Shock May Induce Hysterical Manifestations in a Neuropotentially Sound Individual.

The great importance of the inborn or acquired neuropathic tendency in the production of the symptoms and signs of hysteria and neurasthenia cannot be over-emphasized. At the same time it must be admitted that shock, and by this I mean not only commotional but emotional shock, due to terrifying or horrifying conditions of this war, may have induced hysterical manifestations in a neuropotentially sound individual, in fact, in a soldier who, by his record, had shown that he was neither of a timid disposition nor had any neuropathic tendency.

Automatism and somnambulism, like the hypnotic state, is caused by a dissociation of the field of consciousness from perceptual stimuli, and is regarded as a characteristic symptom of hysteria. Yet cerebral commotion, caused by the bursting of a large shell, may, as the following case shows, bring about in a neuro-potentially sound individual a condition of automatism :—

> " A captain was admitted under my care, and gave the following history :—His company had dug themselves in, in a wood ; he went out into the road to see if a convoy was coming, when a large shell burst near him. It was about 2 o'clock in the morning and quite dark ; about 4.30 a.m. it was quite light, and he found himself being helped off a horse by two women, who came out of a farmhourse. He had no recollection of anything that happened between the bursting of the shell and this incident."

The anxiety neuroses and psychasthenia with obsessions which have been and still are affecting so many people, both in military and civil life, are neuropathic functional disorders which cannot thus be rapidly cured by suggestion and persuasion. The sufferers with these functional disorders are frequently quick-brained, intellectual men and women in all grades of Society, and these are suitable subjects for psychotherapy. The doctor who has a knowledge of psychological medicine and makes it his business to study the desires and motives which determine conduct, and who is able to establish that sympathetic relation with his patients, whereby he gains their confidence, is able to uproot from the mind an anxiety causing a mental

conflict, for which the patient is continually, but unavailingly, striving to make adjustments. The continuous mental conflict from which the patient affected by an anxiety neurosis suffers, goes on during sleep, exhausting his nervous energy and leaving him unrefreshed, depressed and despondent on awaking. This mental conflict which the experiences of the war and the dreams of soldiers of their terrible experiences has brought home to us in a vivid manner reacts unfavourably upon all the bodily functions; thus a vicious circle is established in which the *joie de vivre* can only be restored by removing the cause of the anxiety and improving the bodily health. Now that the terrors of the war and their effects on the mind are passing away, we have the aftermath of the war and the persistence of a widespread anxiety neurosis occasioned by a contemplative fear for the future of self, of wife and family, in a large number of officers and men with an inadequate or deferred pension and no employment. Many of these officers and men joined up early in the war, before entering an occupation or completing their training in it. No wonder then that a widespread spirit of discontent exists among ex-service men, in spite of the fact that rather belated endeavours in mental hygiene are being made by the Government to establish Training Centres for education, re-education and social rehabilitation. The Nation is only beginning to realise that we can never go back to the pre-war conditions.

Before, however, proceeding to discuss some of the practical problems of Mental Hygiene, I will briefly consider the modern trend of objective psychology.

The furniture of the mind is the memory of the experiences of our life and of the bonds that unite them; there can be no mind without memory, and no memory without body. The furniture of the mind of primitive man consists largely of the memory of experiences connected with the primal instinctive activities of nutrition, by capture of food, of self preservation and avoidance of pain, of reproduction, and of the instinct of the herd. The civilized man is able not only to store up and utilize his own experiences, but by means of language and abstract thought, to associate these experiences with those of innumerable other human beings, who live and have lived, and thereby to reason on a much higher plane, and utilize his psychic energy in a multitude of refined ways for the ultimate ends of the primal instincts.

The Freudian School of psychologists assert that all psychic energy has its roots in the sexual instinct, and they maintain that the sexual life of the individual begins its development at birth or even before birth. Dr. MacDougall, in the last edition of his "Social Psychology," has added a Chapter on the "Sexual Instinct," and he now recognizes that sexual experience and conduct afford the most obvious support of the biological theory. He

remarks that the energy of the sex impulse, if it is not expended wholly in its own channels of expression, may reinforce intellectual activities, and thus function in situations that make no direct appeal to the instinct. Such indirect utilization of this primal instinct as a great source of psychic energy, available for other than purely sexual activities, is the process which Freud terms sublimation.

MacDougall recognizes the general truth of this Freudian doctrine without, however, committal to the acceptance of all or, indeed, any of the other doctrines of the " Sex Impulse " of Freud, and I am in agreement with him that the theory of the sex instinct serving as the great source of psychic energy is a fundamental principle of biological psychology. The psychic energy derived from the sex instinct is the *élan vitale* which bursts forth in youth, and is so well and poetically described by Shakespeare in *Romeo and Juliet* in the lines :—

" My bosom's lord sits lightly in his throne ;
And all this day, an unaccustomed spirit lifts me
Above the ground with cheerful thoughts."

Biological Psychology.

Every intelligent human being is continuously engaged in the practical study of psychology, although he may be as unconscious of the fact, and, moreover, as surprised when he is told, as Molière's " *Bourgeois Gentilhomme* " was, when he discovered that he had been talking prose all his life. For do we not all judge by analogy the feelings and motives of others by observing their conduct, their facial expression and gestures, a universal language of the emotions which is often a truer indication of the passions and motives passing in the minds of our fellowmen than is revealed by speech, which often, as Talleyrand said, was given to man to hide his thoughts.

Since the acceptance of the theory of Evolution, biological psychology has steadily progressed, and shown that men, like animals, are moved by impulses whose nature has been determined by Evolution in the long procession of ages, and without reference to the life of men in civilized societies.

All the desires and impulses which move human beings to action have their source of psychic energy in the four primal animal instincts of nutrition or capture of food, self-preservation, the sexual instinct and the herd instinct. All feelings, thought and action, whether individual or collective, have their source in these essential springs, out of which flow the mental streams and rivers of individuals and nations.

In the higher animals there are few purely instinctive modes of behaviour unmodified by intelligence and by habits acquired under the guidance of

intelligence and imitation. Man, owing to the great development of his brain, his erect posture, strength and symmetry of the body, together with the hand, as instrument and instructor of the mind, has been able to make an infinite variety of sensory-motor adjustments and reactions to environment for the conservation of the individual and the preservation of the species. By the acquirement of refined means of inter-communication of his thoughts and feelings, firstly by a language of emotions and later by an articulate language of intelligence and abstract thought, he has, within comparatively recent times, built up a social heritage, but it is doubtful whether this has been associated with any structural change or increased development of the Brain. Although without this social heritage he could never have attained the power he has obtained of controlling the forces of Nature.

Compared with the countless ages that Man has existed on the earth feeling, thinking and acting in response to the gratification of the desires of these primal instincts, the oldest known civilization is but as yesterday to a hundred years.

Maudsley, in his work "Organic to Human," refers thus to the productive energy of organic life as a deeper-lying, more mysterious force than ordinary physical attraction.

When we realise that the intellect of man in the process of Evolution has within comparatively recent times been superimposed upon this strong animal instinct, the gratification of which is attended with intense pleasure and its repression with mental pain, and further, when it is considered that social progress and conditions of modern civilization tend more and more to frustrate the end of this strong instinct which Nature designed for the preservation of the species, a disharmony arises which not only endangers the happiness and contentment of mind of numbers of civilized human beings, but also threatens the race with decay. Seeing that culture and civilization cannot suppress this vital force of the sex instinct, its control has been, is, and must ever be, a difficult problem for the race; and as MacDougall says, the difficulty increases rather than diminishes with every forward step of civilization and every increase of far-sighted intelligence over the immediate promptings of human nature.

The herd instinct in man is intimately associated with the sex instinct in this problem, for the bond of union of the herd is a willingness on the part of each member to sacrifice individual interest and life in the interests of the herd; self-preservation thus becomes secondary to preservation of the species. This is well exemplified in the social instincts of bees and ants and gregarious animals.

Primitive man and still more civilized man, have evolved social usages and customs connected with the sex instinct which have become traditions in the tribe or race, allegiance to which serve as a further bond of union, and every individual who desires to be esteemed and to have his conduct approved, must conform to these traditional customs and usages and the penalty of thinking rationally, of thinking differently, and of thinking and acting independently is to court disapproval, disfavour, or of being thought not respectable. Yet, as Maudsley says :—" How inestimable then the service rendered to mankind by the few who can think, and thinking, do differently from the herd." A truth which Prince Henry appeared to appreciate when he sarcastically complimented Poins :—" Thou art a blessed fellow to think as every man thinks ; never a man's thought in the world keeps the roadway better than thine." (2nd Part *King Henry IV.*, Act 2, Sc. 2.)

But what is the solution of this sex problem ? Early marriage is what Nature intended, and this is poetically expressed in the philosophy of Shakespeare when, in the Sonnets, he is advising a young nobleman to marry and propagate thus :—

" Upon the earth's increase why shouldst thou feed
Unless the earth with thy increase be fed,
By law of Nature thou art bound to breed
That thine may live when thou thyself art dead
And so in spite of death thou dost survive
In that thy likeness still is left alive."

Religions and traditions from time immemorial have centred around the sex instinct ; this is strikingly illustrated in the worship of the Virgin and Child, symbolic of chastity and the tender emotions.

All the higher, as well as the baser passions and sentiments have their source in the sex instinct. Painting, Sculpture, Music, Romance, Literature and the Drama owe their inspiration and fervour to the sexual passion ; yet social traditions and customs of the herd have, in the past, conspired to throw a veil over the tree of life, the openly expressed knowledge of which has been regarded as the forbidden fruit. Social conditions tend to repress the supreme end of this instinct, especially in women. When this happens the psychic energy of the instinct is not suppressed ; it may be repressed and cause a silent current of sexual desire and passion which, although not manifest to the external world, nevertheless, occupies a large place in the conscious and subconscious self, causing mental suffering, with its special emotional tone which finds outward expression in æsthetic forms, or religious observances.

The aim and object of a civilization should be, then, to encourage early marriage of people of civic worth by provision of houses, of a wage or income sufficient to maintain a wife and family, and by the removal of all restrictions

to suitable marriages and the upbringing of children. It is certain that overcrowded dwellings and domestic discomfort lie at the root of many social evils. With the present conditions of our social system, however, marriage is possible only for a certain proportion of the population, but the sex instinct cannot be suppressed. In some the psychic energy may be diverted into other channels, *e.g.*, the young may be encouraged to utilize the energy in sport, work and intellectual occupations, but in spite of such diversion moral teaching and fear of consequences, large numbers of both sexes cannot control the impulse and do not remain chaste, consequently, promiscuous intercourse and prostitution, with all its attendant evils, continue. It is of no use hiding this fact; the war has clearly shown the truth of this statement. Venereal disease was, and is, still raging in our midst. A hopeful change, however, came over the public, in a great measure due to the fatal emergencies of the war, backed by a strong expression of opinion from our Colonies, that prophylactic measures had to be taken to prevent this scourge in our midst becoming worse.

Seven years ago venereal disease could not be discussed in the public press, in spite of the fact that our hospitals, infirmaries, asylums and institutions for the deaf, the blind, the paralysed, the imbeciles and the idiot contained a large proportion of inmates suffering with incapacitating or fatal disease, directly or indirectly due to venereal infection. And in spite of the fact that large numbers of innocent women and children were the sufferers, and in spite of the knowledge that a large proportion of the abortions, miscarriages, children born dead, as well as sterility in women was the result of infection. The public had not yet learned to follow Dr. Johnson's adjuration to clear the mind of cant. Then came the International Medical Congress in London, and the discovery of a new method of treatment of what had been euphemistically called in the Press the "hidden plague." Fortunately to be hidden no longer, for a Royal Commission was appointed, of which I was a member, and it was proved that the registration of causes of death, which had been relied upon by politicians, instead of revealing the fatal effects of venereal disease, obscured them. The evidence showed that 1 in 10 of the adult male population had been infected with syphilis, and a far larger percentage with gonorrhœa. The evidence proved that there was not an organ or tissue of the body which was not liable to be diseased on account of it, and that its most incapacitating and fatal effects fell upon the most vital structures, *viz.*, the heart, the blood vessels, the spinal cord and the brain. Statistics proved that 10 per cent. of persons infected, in spite of treatment, had subsequently died of softening of the brain or other nervous disease, after having been paralysed or demented for years.

It was hoped that the recommendation of the Commission, supported later and energetically carried out by the National Council for Combating Venereal Disease would, by the establishment of early ablution treatment centres throughout the Kingdom, be able to deal effectively with venereal infection and prevent the spread of the disease. Unfortunately, many borough councils and county councils, including the L.C.C., do not regard these early ablution treatment centres as practical, or, at any rate, refuse to adopt this means of combating venereal disease. Numbers of eminent medical men, some of whom were originally members of the National Council, realizing the impracticability of Early Treatment Centres, desire to see the same method of immediate self-disinfection adopted for the civil male population, as was successfully practised in the Army by Sir Archdall Reid, at Portsmouth.

It is argued that there is no increase of venereal disease, but that larger numbers of people attend the treatment centres ; and in support of this fact it is claimed that General Paralysis of the Insane and Locomotor ataxy, both of which are, in all cases, the direct result of the syphilitic organism invading the nervous system, have not shown an increase ; but this argument is entirely fallacious, for the average time after infection, when these diseases manifest themselves, is ten years. There is strong evidence to show that the reason why these late fatal syphilitic diseases of the nervous system are so common among civilized people is that the organism has become modified owing to the widespread use of mercury in treatment, and seeks the nervous system, where it is protected from the effects of the drug. These diseases, General Paralysis and Locomotor ataxy, are seldom met with in countries where syphilis has been recently introduced.

I have seen, in the London Asylums, thousands of men and women die from General Paralysis of the Insane. For twenty years I have endeavoured to make the profession and the public realise that if there were no syphilis there would be no General Paralysis or Locomotor ataxy. To show the effects of syphilis in the production of fatal and incapacitating nervous disease and paralysis I will cite an experience of only last week. I went to a London Infirmary to give a clinical lecture to my class on nervous diseases then being treated in the Institution. There were five cases among the women suffering with severe organic nervous disease, and four out of the five were due to syphilis. The frequency with which syphilis acts as a cause of fatal and of disabling organic disease is known to every hospital physician.

The destructive effects of syphilis on the brain is the best example I can offer of the effects of bodily disease upon the mind. The loss of mind is proportional to the destruction of the hemispheres of the great brain, which

is the anatomical substratum of consciousness and memory, and in the last stages of which the sufferer with this disease leads a mere vegetative existence.

THE HERD INSTINCT AND THE SUGGESTIBILITY OF MAN.

The gregarious instinct is to follow a leader. Sometimes this is advantageous, sometimes disadvantageous, both in peace and war. The dancing mania of the middle ages was a striking example of the effects of suggestion; we see it every day in crowds that will collect at the most trivial incident; indeed, if a person stood in the street and gazed up at the sky, although nothing was to be seen, his action would soon be imitated by numbers of people. In war, this suggestibility may be advantageous or the reverse. A British General is said to have remarked that 10 per cent. of a regiment would fall down or run away, 10 per cent. would follow you to the gates of hell, and the remainder would follow either. It is obvious, therefore, that the men with nervous or timid temperaments are a positive danger, and it was, for this reason doubtless, that many of these men in the earlier years of the war, were tried by court martial and shot for cowardice. Conscription of large numbers of neuropotentially unfit men, who never could make soldiers, was subsequently found to be a mistake. Moreover, it was found to be a mistake to send officers and men back to the front who had been sent home suffering with shell shock, neurasthenia or hysteria. Nervous or mental inferiority was not considered sufficiently as a cause of rejection for general service, and the nation is paying a heavy price in the matter of pensions in consequence thereof. Does not this clearly show that some psychological training of medical men is necessary, especially when we remember that one third of the unwounded in 1917, discharged as unfit for service, were men suffering with war neuroses and psychoses? It also shows what experienced neurologists know, that a large proportion of the civil population are potential neuropaths or psychopaths, and that this branch of medicine should be taught more efficiently.

I am glad to see that the Royal Sanitary Institute has recognized the importance of psychiatry in Sanitary Science by initiating a discussion on Psychiatric Clinics. We have learnt that a mentally sound individual does not become insane by the stress of war; nor does it produce mental deficiency. The war has taught us that the neuroses insanity, epilepsy and mental deficiency are inborn, and the stress and strain of war has merely revealed or accelerated their onset. A long experience as Pathologist to the London Asylums and a study by a card system of 4,000 near relatives, who have been or who are still inmates, showed conclusively the importance of the

hereditary factor. The experience of the war has supported this conclusion. A striking illustration is shown in the case of 10,000 Serbian prisoners who were subjected to famine, stress and severe bodily diseases, *e.g.* typhus, typhoid, and tuberculosis, yet only five suffered with insanity.

But not only are the psychoses (that is, insanity) but the neuroses markedly hereditary, and as Dr. John Macpherson, the Scottish Commissioner in Lunacy, has pointed out, " the hereditary disease is transformable, neuroses appearing in the antecedents and collaterals of the subjects of the psychoses, and *vice versa*, from which we may imply a common hereditary basis." They constitute genetic variations from the normal, in respect of a hyper-excitability of the sensori-motor elements, owing to a narrow margin of highest control of the brain, which renders the subjects susceptible to mental suggestion or to physical or mental impressions which do not similarly affect normally stable individuals.

The symptoms usually commence to manifest themselves in early life, childhood, and the period of adolescence.

" The neuroses and psychoses have no geographical or racial limit, but affect individuals of all human races, and, so far as that is possible, of several of the higher animal series."

Alcohol and its Influence on Body and Mind.

Alcohol, like syphilis, is a race poison, and affects every organ and tissue of the body. It is rapidly absorbed into the blood, and it passes from the blood into the fluid that surrounds and bathes the central nervous system ; its first and immediate effect is as a narcotic upon the higher controlling centres of the brain ; consequently, owing to its wide-spread abuse, it is the most important cause of disorders of conduct and crimes of violence, as prison statistics show. It is not so potent a cause of insanity as asylum statistics would seem to indicate. Why, then, is it assumed to be such a cause of increase of insanity ? Firstly, because the data upon which the statistics are made are unreliable. Secondly, because potential lunatics, epileptics and the feeble-minded have only a narrow margin of highest control and a relatively small quantity is sufficient to make them anti-social, and thus reveal the unsound mind, so that they become certifiable. In support of this conclusion I would draw your attention to the following facts :—I compared the results of 2,000 post-mortem examinations, which I made at Claybury Asylum, with 2,000 post-mortems in Charing Cross and St. George's Hospitals, and whereas cirrhosis of the liver with dropsy very seldom occurred among the insane, it was a very frequent cause of death of the sane in hospitals. The inference is that the potential lunatic can seldom

drink large quantities of alcohol for any length of time without his unsound mind becoming revealed. There is no doubt that persons who have suffered with head injury or brain disease are intolerant of alcohol. Alcohol and syphilis work together in undermining the constitution. Alcohol plays an important part in the spread of venereal disease. Many a good man's life has been wrecked by loss of self-control on one occasion only, when he has indulged in excess of alcohol.

Control of the liquor traffic, especially of the sale of spirits, is necessary in the public interest, but I do not favour total prohibition. The sale of alcoholic beverages in the form of light beers and wines seems to be a reasonable mode of dealing with the question, and not likely to cause the widespread discontent that total prohibition would.

MENTAL HYGIENE.

In America, for the past three years, there has been a very active development in the study of Mental Hygiene, and a quarterly journal, dealing with the subject in all its aspects, has been published by a National Committee of Mental Hygiene of which Mr. Clifford Beere is the Secretary. He wrote a remarkable book entitled " A Mind that Found Itself " ; in this he gives his experiences of the treatment of his mind when it was unsound, and points out how illogical it had been. The objects of this National Committee are to help both the physician and the patient also, to befriend the patient's relatives, to whom, when burdened with an actual or impending affliction, it would become an unfailing source of information, advice, or comfort. In a word, it would be a friend to humanity, and upon these lines this Committee of Mental Hygiene and its centres of activity have been doing most valuable work in the United States. It is such a " Before Care Association " that we want in this country.

THE TEACHING OF PSYCHOLOGICAL MEDICINE.

The War has shown the great need of systematic teaching of psychological medicine as a part of the medical curriculum. In 1907, Vol. III. Archives of Neurology and Psychiatry, I strongly advocated this teaching for post-graduates, and suggested that a diploma of Psychological Medicine should be instituted ; for I felt sure that it would raise the tone of medical men employed in the care of the insane, and lead to diagnosis and better treatment of mental disease in the early curable stage. I also advocated the establishment of a Psychiatrical Clinic in London, where the incipient and borderland cases could be seen and treated.

In a recent number of the *Lancet*, in an article on the Genesis of Maudsley Hospital, the statement I made is quoted in full, and it moreover, says that there is good reason to believe that it was this desire on my part to see an

acute hospital in London for the study and treatment of neuroses and insanity in the early stages which induced Dr. Henry Maudsley to give £30,000 to the L.C.C. to build such a hospital. Unfortunately, this great physician, philosopher and philanthropist, died a few years ago, before the hospital, which is named after him, was fulfilling the objects which he contemplated. However, it did most valuable service during and after the war, and I hope that soon the Ministry of Pensions, who are at present using it, will be able to hand it over for civil use. I was convinced, in 1907, that the institution of a diploma in Psychological Medicine would prove as valuable to that branch of Medicine as the Diploma of Public Health had been, and I called upon the President of the Royal College of Physicians to try and induce the Royal Colleges to give such a diploma, but I was quite unsuccessful. Just prior to the War the Cambridge University led the way, and instituted such a Diploma, and now many Universities and the Royal Colleges give diplomas of Psychological Medicine. What is now required is the systematic teaching of the subject. For the past three months a course of Psychological Medicine, which will occupy six months, has been in operation at the Maudsley Hospital, under the direction of the L.C.C. The Course has been designed for either the University of Cambridge Diploma, or for that of the Royal Colleges. I am pleased to say that a class of 36 post-graduates have attended.

The Neglect of Psychology and Neurology.

Sir George Newman in his recent admirable report on Medical Education, states :—" It is deplorable that the English Student of Medicine should have no opportunity of learning modern methods of psychiatry, or of diagnosing incipient and undeveloped cases of mental disease. And yet, in 1913, Parliament imposed statutory duties upon the medical practitioner, among them being :—' He must be competent to diagnose all forms of Mental Disease ' (Mental Deficiency Act, 1913). The public might ask why did not the authorities previously insist upon proper training in this important branch of medical education, involving the liberty of the subject. The effects of this neglect of training in this important branch of Medicine was shown in conscripting for the War. In the Report of the Ministry of National Service, physical fitness and unfitness only are considered.

It is difficult to understand, in the face of the report of Sir George Newman and War Experience, that in the Report of the Consultative Council on Medical and Allied Services, the scheme referring to the Equipment of the Secondary Health Centres, Provision 57, does not include any department of Neurology and Psychiatry, although other and less important special departments of Medicine are provided thus :—Skin, Ear and Throat, Eyes, Genito-urinary, Dental and Industrial Hygiene. Possibly, having regard to the fact that

Dr. Addison, in a preface to my work on ' Shell Shock and War Neuroses,' fully recognizes the importance of these subjects, the Ministry of Health may have in view some special scheme of dealing with Neurology and Psychiatry.

The importance of psycho-therapy has been realized in the University of Birmingham, for courses of lectures have been given on this important subject by two leading authorities, Dr. Bernard Hart and Dr. MacDougall, Academic psychology is not of practical importance to the medical man, although the knowledge of it is helpful ; it is the study of conduct and its disorders considered biologically as set forth by the late Dr. Mercier, which should engage his attention, and in conclusion I would remind my audience of the words of Francis Bacon, in his *De Augmentis* when he pleads for a study of Mind and Character :—" That so we may have an accurate dissection of men's minds and characters, and the secret dispositions of particular men may be revealed, and that from a knowledge thereof better rules may be made for the treatment of the mind."

LINKS WITH THE TROPICS.

Popular Lecture by Andrew Balfour, C.B., C.M.G., M.D., B.Sc., D.P.H., F.R.C.P.E. Director-in-Chief, Wellcome Bureau of Scientific Research.

I ESTEEM it a great honour and privilege to have been asked by the Council of the Royal Sanitary Institute to deliver the popular lecture at this Sanitary Congress in the great city of Birmingham. When thinking about a suitable subject I remembered how often in the Sudan and other parts of Africa the confiding tourist purchases native curios like spears and knives as genuine examples of local manufacture, only to find that they are the products of the Capital of the Midlands. It was clear that in this, as in other respects, Birmingham had many connections with the Tropics, and I conceived the notion of dealing with the subject which furnishes the title of my lecture. I only trust that none of you, like a gentleman of my acquaintance, misread the title of the paper Thinking that the latter was called " Links *in* the Tropics." and being an enthusiastic golfer he announced his intention of being present, doubtless hoping to hear about the sanitary benefits to be derived from following his favourite game under adverse conditions.

In the olden days a great gulf was fixed between these islands, set in the silver sea, and those torrid regions which lie between the tropic of Cancer and that of Capricorn. The gulf was traversed by sailing ships, and though it would be a mistake, and in some cases an insult, to apply generally to those graceful and vanished fabrics the term slow-moving (for the famous tea-clippers of the " sixties " made wonderful passages, thanks to scientific construction and skilled seamanship), yet too often they formed but precarious links with the Tropics, and, as a rule, long intervals of time elapsed during their voyages from shore to shore.

A great change took place with the introduction of steam, and in our own day we have witnessed an even greater innovation, the coming of the aeroplane. Both steamers and air-craft have brought the Tropics much nearer home, yet these are not the links to which I would now invite your attention. Neither do I propose, save indirectly, to refer to the great war link which has rendered many tropical regions household words to the people

of Britain, and with which thousands, who never expected ever to fare foreign, have become familiar; in many cases only too familiar, for the Tropics have a way of bestowing legacies upon those who sojourn in them. Now those legacies form the first of the links with which I will deal, for it is on what we may term "Hygienic Links" both with tropical and sub-tropical regions that I wish to descant for a brief space, and then, by reference to the screen, bring home to you, as far as possible, the significance of those components of the chains which bind these islands to the countries of the sun.

In the first place let us consider what we may term *Disease Links*. Foremost amongst them stands malaria, and from remote periods this pestilent complaint has been associated in the minds of the inhabitants of these islands with hot and unhealthy climates. Doubtless many a Crusader of old, like many a modern Paladin, returned from Palestine weary and worn and sad, with, though he knew it not, the stealthy plasmodium lurking in his blood, his spleen and his bone-marrow. In the days of John Company many came back from India jaundiced, emaciated, ill-tempered, plagued with ague cakes, as their enlarged spleens were called, and full of that black bile of melancholy which told of a disordered liver, deranged, in many cases, owing to the poison of paludism. The West Indies furnished their quota of ague-stricken wrecks, and not a few arrived from Africa, victims, as they thought, of a deadly climate, but in reality the prey of infected mosquitoes.

And yet malaria is far from being a tropical disease. It was, as you know, once common in many parts of England, including the marshes about the Thames estuary, where, as Defoe tells us, seasoned inhabitants of the district were wont to supply themselves with wives from the uplands. These rarely lasted more than one year, so that it was not uncommon for a man to have from 5 or 6 to 14 or 15 helpmeets! In certain localities it has persisted as an indigenous ailment down to the present time. The same factors were operative in its causation and spread as those which determine its incidence in the Tropics. Anopheline mosquitoes of several species were doubtless present from the days when the temperature conditions in Britain became favourable for them, and for centuries they found numerous breeding places, for swamps abounded. These were the days when the boom of the bittern was heard in the land, and when, in many a parish register, there were entries of deaths due to quartan ague.

We cannot now tell whence came the malarial parasite. In all probability it was introduced from abroad and quite possibly from the Tropics. Happily it never gained such a footing in England as it did in Greece and in Italy, and still more happily it lost its hold as land was reclaimed and put under cultivation. The abolition of mosquito breeding places and a consequent diminution in the vectors or intermediate hosts of the parasite

was almost certainly the chief reason leading to a lessening in cases of malaria, but other causes may have been operative. For example there is reason to think that man learned to avoid living in the proximity of marshes, and hence anophelines had fewer chances of feeding on him. They were thus driven to seek blood from wild and domestic animals, and from these sources could not acquire the human malarial parasite. Into such questions, however, we need not enter, for I wish merely to direct your attention to what has occurred as the result of the war. There has been a marked strengthening of the malaria link.

Consider what has happened. From Mesopotamia, East Africa, Palestine, and more especially from Macedonia, hundreds, nay thousands, of men have returned to this country as so-called malaria carriers. They have been infected and have not been cured, partly because some forms of malaria are not easily cured, partly because the exigencies of warfare rendered early and efficient treatment difficult and sometimes impossible, partly because many medical officers did not know how to treat malaria properly, as it was a new disease to them, partly because our knowledge on the subject is still defective.

Now these malaria carriers who suffered from the so-called benign tertian malaria or the tropical form, also termed malignant or sub-tertian, or, very rarely, from the classical quartan ague, which is scarce in these war areas, and who not infrequently had double infections; these malaria carriers, I say, harboured, in nearly every instance, parasites representing two distinct phases of the life-cycle of the plasmodium, as the malarial germ is called. They were the hosts of the forms belonging to that part of the life-cycle which is passed wholly in man, the asexual parasites, and of the forms concerned with reproduction in the mosquito, the sexual parasites. The former cause fever, the latter do not. The former begin their pernicious careers as tiny spores or sporozoites injected into the blood by infected gnats. These little spores invade the red blood corpuscles, grow in them, destroy them, finally rupture them and, having multiplied in them, are cast out into the blood stream in greatly increased numbers. Some perish, others enter fresh red cells and continue the work of destruction. If sucked into the stomach of an anopheline mosquito they die out, for they are not adapted to life outside the human host. They collect, however, in the internal organs of man and lie hidden in what we may call the " dug-outs " of the spleen and liver and the trenches of the bone-marrow until a chill or some other provocative agent rouses them to activity, when they start multiplying, invade the blood stream and give rise to the characteristic malarial attack. We need not worry much about them, for they are individualists. The sexual parasites, on the other hand, which present

a different appearance, and which are specialized forms also derived from the aforesaid sporozoites, are of great importance to the community. Their sole function is to preserve the malarial parasite from the eventual destruction which would infallibly overtake it were it wholly confined to its human host. The latter possesses a more or less efficient defensive mechanism in the shape of blood policemen, as his white blood cells may be called, and possibly also in the form of anti-bodies elaborated in the tissues and fluids of his body by the action of the parasites themselves. Nature has provided a means of escape in the shape of the anopheline mosquito, and these specialized sexual forms are adapted for life and development in the stomach of that insect. The changes which they there undergo are wonderful and even romantic, resulting, however, in the production of millions of tiny spores or sporozoites which in due course the mosquito can inject into some unfortunate, whose red cells are then invaded and who thus becomes a sufferer from malaria.

This is the barest outline of what happens, but the important thing for us to note to-day is that it *has* happened in a considerable number of cases in England since the malaria carriers began to pour into the country. Lt.-Colonel S. P. James, I.M.S. (Ret.), of the Ministry of Health, has kindly furnished me with the following information.

No less than 433 cases of malaria are known to have been contracted in England during the period between August 22nd, 1917, and the end of 1919, and of these it is instructive to note that a considerable proportion has been in children under 15 years of age.

The Civil Population has furnished 160 of these cases, the great majority of which have occurred in the county of Kent, chiefly in the Islands of Sheppey and Grain, where the sources of infection include cases of true endemic malaria as well as cases of imported malaria.

In 1919 there were 193 cases, and of these 75 occurred in the Kent islands, the remaining cases being widely scattered. Essex, Norfolk, Salop, Huntingdon, Northampton, Buckingham and Hampshire were the counties in which most of the "sporadic" cases occurred. Some of the 433 cases have proved fatal, and there has been a considerable mortality amongst the malaria carriers themselves, so much so that the deaths from malaria have been from three to four times as numerous as they were in pre-war days.

Here then we have a disease link with the Tropics which has been greatly strengthened by the war, and which it is to be feared will not be weakened for some time to come, though it is unlikely, considering the measures which have been taken for dealing with it, that it will assume a more important *rôle* than it possesses at present.

Another disease link adversely influenced by the war is dysentery, of which there are two types: amoebic, due to a protozoon or animal organism

and bacillary, caused by certain micro-organisms belonging to the vegetable world. The former is much more of a tropical complaint than the latter, which is common in our lunatic asylums, but naturally the conditions obtaining in hot climates, especially in time of war, favour the spread of bacillary bowel complaints. Although the amoebic form is chiefly connected with the Tropics it is of special interest to note that the parasite which produces it, and which is called *Entamoeba histolytica*, has for the first time and quite recently been found living in the intestines of persons who have never been out of England and who apparently have not been in close contact with dysentery carriers, as those who harbour the cysts of the Entamoeba are, very incorrectly, termed. This is but another example of what experience is teaching us, that both parasites and diseases which were formerly believed to be limited to hot countries may exist in the temperate zone, that there are links of which a few years ago we had no conception, and of which the full significance has yet to be determined.

Plague, Yellow Fever, Cholera, Small-pox and other diseases, including Rabies, were then considered, and the Lecturer continued :—

Now you must be weary of diseases, so we will have a look at other links which, though very familiar to you, have perhaps never been specially associated in your minds with tropical countries. For example, there are two drugs with which we are wont to cure, or attempt to cure, a couple of the disease links, namely, malaria and dysentery. These drugs are quinine and ipecacuanha.

I take it that some of those present to-day served during the war in one or other of the Eastern War Areas. If so, they probably have a more intimate acquaintance with quinine than those of you who regard it only as a tonic after flu, or something to aid your appetite, or a nasty bitter ingredient of some potion which your doctor has prescribed.

Yet I venture to think that even those who, so to speak, have lived with quinine know very little about it. Have they ever considered whence it comes, for it is a tropical product, or how it is prepared ? Have they studied its history, rather a fascinating one, for I submit the old names of Countess's powder and Jesuits' or Peruvian bark are distinctly alluring, and do they realise how the German submarine menace, by damaging the quinine link, at one time bade fair to bring about a very serious situation ? I rather think one might discourse on these topics to good purpose, but I am not going to do so, for time presses, and I am reserving quinine for the screen, as I hope to show you some interesting pictures of the Indian cinchona plantations.

Who does not know ipecac ? We make acquaintance with it in our croupy days, or rather nights, and I suppose it enters more largely into the

composition of cough mixtures than any other medicine in the Pharmacopoeia. Its chief active principle, emetine, is our sheet anchor in amoebic dysentery and has saved many lives and prevented the formation of many liver abscesses. Like quinine, the plant from which it is derived flourishes under the conditions of heat and moisture. It is indigenous to Brazil and is cultivated in the Straits Settlements. It occurs also in other parts of South America, and in the Colombian forests I have seen the native collector loosening the roots with a pointed stick while tugging at the stems of the low-growing shrub. It is from these roots that ipecacuanha is derived, and it is also from the roots that emetine was isolated in 1817 by Pelletier and Magendie.

Many other valuable drugs hail from the Tropics, but they have not the hygienic significance of those just mentioned; so let us pass to *Inseci Links*, which, if not very important, possess a certain interest.

The Stegomyia mosquito I have mentioned, but one is apt to forget that the familiar cockroach and another pest, which I hope is not too familiar, the bed-bug, both came originally, if not exactly from the Tropics, at least from the warm countries of the Near East. As Shipley has pointed out in his interesting little books on the "Minor Horrors of War" these disgusting creatures invaded England early in the reign of bluff King Hal. They are links we could very well do without, but it is so long since they became naturalized that we can scarcely regard them in the same light as the other components of our chains, though they have a very distinct bearing on our hygienic outlook, the bed-bug by rendering houses more or less unfit for human habitation, the roach by destroying our food-stuffs.

The Flour Moth and a species of Cotton Mite were mentioned, and the Lecturer continued :—

So much for insect links. The thought of cotton suggests yet another series, which we may call *Economic Links*, and amongst which we may differentiate those connected with clothing, those associated with food, and those of a more or less general nature which cannot very well be classified but all of which have a distinct hygienic interest.

Cotton is the only important article of clothing which is exclusively a product of warm climates. It is derived from several species of Gossypium, and a cotton field in flower under the blue of a tropic sky is a fair sight, whether the petals be the creamy white of the American species or the yellow and chocolate of the Egyptian cotton plant. In any case towards evening they all present a pink mauve as the blossoms close and die. In India there is a species with a bright red flower, in Africa one with a deep scarlet, but the cotton from these plants is never exported, so they do not come into our category. After the flowers are gone the snowy tufts of cotton lint

projecting from the shrivelled capsules contrast well with the changing leaves and appeal both to our sense of beauty and the more sordid sense of gain. From a hygienic standpoint one of the chief values of the cotton fibre lies in its non-irritating action on the human skin. Cotton is comfortable, and though perhaps it has its chief vogue as clothing in the lands where it grows, in this country, like the poor, it is always with us, and many prefer it for underwear despite the time-honoured injunction anent flannel next the skin.

I would have to begin a new lecture and thereby run many risks if I were to attempt to do justice to our *Food Links* with the tropics.

The first is the banana, familiar on the coster's barrow, no less familiar in our fruit shops and our homes, one of the most remarkable fruits in the world and one of the greatest value. It is not so very long ago since Charles Kingsley with all the enthusiasm of a boy visited the West Indies and wrote "At Last!" Yet it is evident that the banana was largely a stranger to him. What does he say about it? He terms it a vegetable, and then almost immediately afterwards speaks of it as a fruit. In describing the plant he says: "Most beautiful it is. The lush fat green stem; the crown of huge leaves, falling over in curves like those of human limbs; and below, the whorls of green or golden fruit, with the purple heart of flowers dangling below them." It is to be feared that nowadays few people would rhapsodize on the subject of a banana tree, and fewer yet would wax poetical on the subject of banana bunches.

In these days large numbers of fine steamships exist chiefly to transport the banana to the United Kingdom and the United States. Travelling on one of the Great White Fleet in 1914 I watched the fat bunches coming aboard at Santa Marta on the endless leather belt, and have seen crowds of cheery negroes and negresses laden with the unripe fruit pressing up the gangways at Kingston, Jamaica. Thanks to the shrewdness of an old sea captain the banana saved Jamaica and has made many countries prosperous besides being the staple diet of tens of thousands of African natives. It is now one of our greatest links with the Tropics, and, quite apart from being somewhat of a delicacy at dessert, is an important article of food. Myers and Rose have shown that in composition it compares very favourably with most of the common fruits eaten in the United States of America, where remember there is a much greater variety than in England, while Prescott states that it is a high power fuel food worthy of being considered a staple article of diet. It appears, however, to be deficient in anti-scorbutic properties. (Lewis.)

Much larger quantities of sugar may be given in the form of banana than as pure sugar without producing gastro-intestinal disturbances, and during the late war banana bread came a good deal into use and is said to have effected a saving of about 30 per cent in the use of wheat flour. From

a sanitary standpoint interest attaches to the peel of the fruit which protects it from contamination.

Of other fruits I will mention only the date, the coco-nut and the cocoa or cacao. After briefly discussing the first two the Lecturer proceeded as follows :—

One must admit the hygienic importance of chocolate, whether we consider it as a delicious sweetmeat, as a substance, when taken in excess, spoiling many digestions and helping indirectly to ruin many teeth, as a valuable food, as a substitute for butter, or as a grateful and stimulating beverage. Moreover, as Birmingham and its neighbourhood has good reason to know, there are many sanitary problems connected with the manufacture of cocoa and chocolate out of the raw product as it comes from the Tropics. It now hails from various countries, notably the Gold Coast, Southern Nigeria and the West Indies, and, when revelling in the sweetmeat, I fancy it is at the best only occasionally that its devotees recall the multi-coloured cocoa pods clinging to the stem of *Theobromo cacao*. We shall see on the screen what they are like and what happens to them, but it is interesting to remember that as the raw product from the beans links the United Kingdom to the Tropics so the finished article unites the Tropics to England, for there is no more important emergency ration in the wallet of the explorer and far-flying airman than the familiar cake of chocolate.

After referring to sugar, tea, coffee, tobacco and the ground-nut, the Lecturer continued :—

Last amongst the food links let us glance at the other pulses. Their name is legion, but I need merely mention lentils, rich in protein and iron, and various species of brown haricots, as coloured beans are called, which during the war were introduced into this country for human consumption, and have attracted a good deal of notice.

Finally, there are economic links of a more general nature, to which there is no end, for they include rubber, timber, jute and many others possessing some sanitary significance. I take it that from a hygienic standpoint soap is the most important, and in this connection the oil extracted from the fruit of the West African Oil Palm is pre-eminent. You have doubtless read of the vast schemes of Lord Leverhulme, who is greatly interested in the West Coast. Why ? Because of the palm oil. Two specifically different oils are got from the fruit, that of the first extraction being used in the manufacture of soap, that of the second being a source of candles and of glycerine. But this palm oil acts as a hygienic link in quite another manner, because, in the fashioning of "tins" to hold what the Americans term "canned goods," it is employed for preserving the surface of the heated iron sheets from oxidation until they can be dipped into the bath of melted tin used

for coating them. Now it is just these tinned foods which have made possible the exploration and colonization of many tropical lands, so here once more we have a link pulling both ways: oil from the Tropics, preserved foods from England.

The Lecturer dealt with other products from palms, and then continued:—

Our consideration of hygienic links with the Tropics, necessarily a very brief and imperfect one, is now at an end, but it may have the effect of directing your minds to fresh lines of thought. You remember the French author who during a period of disability occupied and amused himself by making a tour round his room and considering the sources of all his articles of furniture; an ingenious and instructive pursuit.

Doubtless any of you who suffer from malaria relapses will infallibly remember some torrid country and perchance curse it in language befitting its climate, but the quinine you have to swallow may possibly in future be to some degree robbed of its bitterness if you recollect how the cinchona grows on the slopes of the Himalayas and in the rich and beautiful island of Java. Again, when freely employing your pocket handkerchief some vile November day the severity of your catarrh may be lessened by a mental vision of a flowering field of cotton under the bright sun and the blue sky of Egypt, for, believe me, in these hard times few of our handkerchiefs are of linen or of silk. And so on and so forth. It was Pliny who said, "*Ex Africa semper aliquid novi*," and what is true of Africa is true of the Tropics generally. I cannot claim to have voiced any new idea. Cantlie, Shipley and others have dealt with some of these subjects, but I have tried to put them before you in what is perhaps rather a novel manner, and I am hopeful that this lecture may lead you to think more frequently, and possibly also in some respects more kindly, of those tropical possessions which are linked by so many ties to the Mother Country and form part of that mighty Empire of which we are so justly proud and for which so many have laid down their lives.

SECTION A.—SANITARY SCIENCE AND PREVENTIVE MEDICINE.

Presidential Address, by Colonel Sir ROBERT FIRTH, K.B.E , C.B., F.R.C.S.

AT THE DOOR OF OPPORTUNITY.

AS President of the Section, it is my duty to conform to custom and give an opening Address. On what subject to speak has been a matter of anxiety to me. I have looked through the addresses of some of my predecessors and find that no one of them has been able to take advantage of the occasion and expound some new and epoch-making theory or announcement, but rather they have confined themselves to generalities. Much as I would like to have been in a position to break away and tell you something new, facts are too strong for me and I am forced to conform to precedent and to speak rather of the general than the particular. That I do so, I ask rather for your sympathy than for your criticism. Having thus expressed my weakness, I make the further confession that, having no axe of my own to grind, I speak as the detached man. Pardon me for reminding you what a rare and precious gift is the art of detachment. It is the gift by which a man may so separate himself from a life-long environment as to take a panoramic view of the conditions under which he has moved and lived, or of the subject in which he has been most identified and interested ; in other words, it is that gift which frees us sufficiently to see the realities as they are, the shadows as they appear. Now, I do not claim to have gained the precious art of Detachment, but I have striven for it and, so far as I have been successful in respect of Preventive Medicine, I would lay bare to you my thoughts on some aspects of that subject to which this Section is specially appropriated.

As might be expected, I find some changes after an absence of years, and it is not very easy to pick up dropped threads and re-orientate myself. I have the feeling that we have been like travellers in a mist, and that now, as we issue from that mist and take our bearings on a new horizon, we find ourselves happily not far out from our reckoning ; perhaps, still far from the summits which are our goal, yet we have reached a rise in the ground whence we can get a good view of the country before us. To a large extent, we have journeyed so far by half-conscious instincts, but now, I think, we have a legitimate hope to go forward in the light and discretion of reason. I mean by this that we have shed some misconceptions and have a good

chance of advancing on better lines. Of misconceptions cast aside, I would mention the notion that Disease is an entity and a thing to be opposed or frustrated much as the occupants of a stockade would attempt to exclude a would-be intruder. As you all know, we take another view now as to the nature of disease. Another misconception I gladly see to have been jettisoned is the view of Preventive Medicine which restricted its scope to environmental questions and the amenities of External Sanitation. In the field of administration I find most of the old cumbersome anomalies, leading to confusion and overlapping, to be still existing but the formation of a Ministry of Health promises well for simplification and unification in respect of such questions as general sanitation, housing, epidemiology, infectious diseases, maternity, infant welfare, health insurance, tuberculosis and venereal diseases, with co-ordination of the hygienic activities of other departments such as the Board of Education for the school-child, the Home Office for industrial hygiene, and the Board of Agriculture for food control.

In this way, Preventive Medicine as the chief handmaiden of the new Humanity enters on a new stage. On this advance and prospect we rightly congratulate ourselves but, before developing my theme, I am sufficiently old-fashioned to enter the plea for grateful thanks to those who have gone before and prepared the way. In this homage, I recall to your memories the names of John Howard, John Pringle, Robert Owen, Lord Shaftesbury, Edwin Chadwick, Benjamin Hall, Edmund Parkes, Francois de Chaumont, John Simon, George Buchanan, Farr, Seaton, Netten-Radcliffe, Ballard, Thorne Thorne, and many others. To many of this generation I fear these names are little known, but those who are familiar with the evolution of what we call Preventive Medicine will appreciate the significance of this nominal roll. Who knows but that this "circle of the wise" may still look down on us and see the gatherings in which they play no part and in which too often their names are neither invoked nor blessed. I would repair the omission and say that ours is the loss, since to us, distant in humanity, the need is ever present to cherish the memories of the men who in days of trial and hardship laid the foundations of the present structure on which we pride ourselves.

Whatever may be our justification for self-congratulation, it is necessary that, as regards the present and the future, we do not lose our sense of perspective, that we recognise our weakness as well as our strength, our limitations as well as our possibilities. The astonishing victories gained during the last fifty years by Preventive Medicine are known to you all. Vast sections of the population live healthy lives ; at all ages there has been a reduction in the death-rate ; the expectation of life at birth has risen in

the case of males from 41 to 51 years and in that of females from 44 to 55 years ; the infant mortality rate is well below the 10 per cent. line ; we suffer a relatively light burden from some epidemic and infectious diseases and many gross forms of disease have practically disappeared, while whole groups of tropical disease have come or are coming under control. On the other hand, we have a steadily falling birth-rate, a still unnecessary loss of life in infancy and before birth, nearly 100,000 fresh cases of tuberculosis occur annually, a similar number of diphtheria and scarlet fever cases and upwards of a million cases of measles each year. Further, one-sixth of the children of school age are so dull and backward mentally as to be unable to derive reasonable benefit from schooling, half of the school children are in need of dental treatment and one-twelfth of the children are so defective in eyesight as to be unable to take reasonable advantage of their lessons. The expenditure on sickness and disablement benefit returns under the system of national insurance denote that more than half of these people claim and receive treatment representing an aggregate loss of working time equal to many thousands of years per annum and most of which was due to what should be preventable sickness. Similarly, a recent Report on the physical examination of over $2\frac{1}{2}$ million men of military age shows that only 36 per cent. of them were of normal health and strength and that of the remainder nearly 40 per cent. were of a very low physical grade. These imperfections in the national health balance sheet coupled with our demonstrated helplessness when an epidemic like influenza sweeps through the world and claims 100,000 deaths amongst us, as it did less than two years ago, gives food for thought and the realization that we still have much to learn and much to do.

This evidence of weak points in our national health balance sheet is all the more striking when we recall our potential capacity to control disease among large masses of soldiers in the late war. The success achieved in the war area and various military communities was undoubtedly of a high order and particularly gratifying to me as one who had been for many years an evangelist of the goddess Hygeia in the army. However, I am reluctant to lay much stress on the facts because the hygienic adminstration of disciplined groups is easier than the corresponding administration of a general community. We in the army were fortunate to possess a disciplined population and a perfected organization which permitted of action for the community as easily as for the individual. Moreover, I am not unmindful of the fact that the army sanitary organization received the valuable help of some of the most capable sanitarians from the civil side. If there is one lesson more than another to be derived from our war experiences, it is

the value of Laboratory work as applied to the prevention of disease and the efficacy of simple materials and simple methods used in an intelligent way. To go further than this seems to me to be unwise.

Notwithstanding some large items on the wrong side of the national health balance sheet, I take an optimistic view of the future of Preventive Medicine but, as an onlooker, I cannot conceal from myself that there are weak points. It is too early yet to see the effects of the newly formed Ministry of Health, but, judging by its utterances, its actions promise to be based on sound and comprehensive principles. I welcome it as a great advance and the harbinger of great things to come, if only as a co-ordinator, director, developer and unifier of forces which hitherto have overlapped or worked independently of each other. I foresee that it will be more than that, but the problem which it faces is complex to a degree and the measure of its success will be judged by its organization of an ordered and systematic attack on the strongholds of preventible disease, particularly that mass of crippling invalidism which is steadily undermining the capacity and efficiency of the masses. The essential partners in this attack are the public and the profession of medicine, or, what is the same thing, the health of the community depends mainly on three factors: namely, the good mother, the good general practitioner and the good health officer.

As affecting the public, the outstanding needs at the present time are the dissemination of knowledge among the people so that they may know how to secure and preserve personal health, coupled with measures to ensure that the masses exist under such industrial and domiciliary conditions that their knowledge may be put into practice. In this, as in other spheres of human activity, ignorance is the chief danger. It is not too much to say that in proportion as knowledge spreads in a population, disease and incapacity decline. As in the individual so in the community, knowledge is the sheet anchor of preventive medicine, knowledge of the way of health, knowledge of the causes and channels of disease, knowledge of remedy. That great and far-reaching efforts have been made and are being made to enlighten public opinion on the theory and practice of hygiene is well known to us all, and the progress made is encouraging for even greater efforts. But, in respect of domiciliary conditions we have much lee-way to make up. It is familiar to us in the great housing problem of to-day. Some aspects of this question will be discussed in other sections of this Congress and it is inappropriate for me to enlarge on the subject, but I am tempted to say this much: Who is there here who is not familiar with the beauty of some parts of certain old English towns? And who can deny that our houses were beautiful when the nation was relatively poor

and are horribly ugly now when the nation is relatively rich? Squalor and ugliness threaten to overwhelm us under the mistakes of the past and yet beauty beckons to us among the promises of the future. I often wonder whether the powers that be in these matters have any policy; if not, is it too much to ask that a policy be thought out? We need and must have beautiful towns and cities, but, at the same time, we must do away with the disfigurement and destruction of the rural belts surrounding them. The garden city is the product of a confusion of ideas and gives us but innumerable doll's-house plots and a series of pocket squares of mown grass. The truth is, the town or city belongs to the commerce of men and should be concentrated. For the sake of the country and for all it can do towards feeding us let us cease to sprawl over it with our houses, and still more for the sake of our towns let us develop them intensively. There is room in this city to house four times the existing population, while arranging for open spaces eight times their present extent. Let us prescribe limits for our towns and draw lines of circumference around them in the future.

And as for our future industrial expansion, the ideal is that it be rural. The human case for it is overwhelming while modern transport and the electrical transmission of power make it feasible. In place of so-called garden cities, I would prefer to see industrial villages whence the factory worker could reach and be a real sharer of the true country, where, in his spare time, he could be a producer from the soil instead of a consumer of cheap luxuries in a town. Meanwhile, our towns themselves should contract in place of expanding and should rise instead of spreading. In this conception, I do not visualize new monstrosities heralding a new gloom but reasonable development whereby height, by economising space, might be made to give ample accommodation in conjunction with increased facilities for the ordered and open air life of the dwellers in the community. Neither do I favour the building of huge sky-scraping tenement dwellings, nor am I unmindful of the value of one home, one family and one garden for all. But we must be practical and realize that all which is desirable is not necessarily possible, and that for the sake of the greater number we must safeguard our rural areas by concentrating our towns. If we continue to do in the future as we have done in the past there will be no rural areas left to us. In thus referring to the housing problem, I plead for some clear thinking before it is too late. Let us avoid the mistakes of the past and think out what we really want, but, above all things, let us prevent the next generation being forced to realise that they can never have wanted what they have got. Unless I misread the signs and the words of legislators, it seems to me that the inhabitant of our future town or city is doomed to the listless contem-

plation of his own and his neighbour's insignificance ; he will have the benefit neither of country nor of town. I hope that I am wrong.

Now, as to the other partner. Although, there are many forces inimical to the State and to the Public Health which lie outside the province of medicine still the driving force behind any Ministry of Health must be and will be the profession of Medicine but, true as this may be, we must not forget that the power of that force and the readiness of the community to accept its guidance will depend upon the degree of confidence which the profession can inspire both as to its knowledge and the methods of applying that knowledge to the general good. That being so, the question is, where do we fail and what are the weak points ? We are all agreed that Disease is a failure or discord in the interplay of the various factors which go to make up the physiological drama of man's body and the economico-social drama of his life as a citizen. Health is the dynamic balance of those factors and ill-health or disease the discord or failure of the correct reciprocal interplay of the factors involved. It follows then that the first adventure of disease prevention must be to search for and investigate the origins of Disease. The pertinent question suggests itself here : is the search to begin at the larger disturbances of the reciprocal interplay of factors or is it to be at the minor and incipient variations ? If we think for a moment of how the sources of great rivers have been discovered, we find that the best results have followed the systematic working up of streams and to me it seems that on a similar method of tracking back from the main branches of disease, noting stages, unravelling complications and comparing their features and directions in men, animals and plants, we are more likely to find their several origins than by studying only the areas where they are less differentiated.

Adopting this view, it is obvious that the problems of Preventive Medicine arise where the individual citizen lives, that his home and workplace are the fields for inquiry. For this reason the general practitioner is or should be the real fighting man of the cohorts of Hygeia, and much will depend upon how well he can carry out partly or wholly the investigations which are necessary. The elucidation of the early signs of disease as presented by casual symptoms and a right understanding of the law of associated phenomena alone offer a vast field of work for the general practitioner, to say nothing of a whole string of diseased conditions which I need not enumerate. Besides, there is other work open to him. Our present classification of disease is based upon what we find in the dead, and the idea prevails that ailments can be classified according to gross structural changes. Many persons are ill with no structural changes, their only signs of disease

are distressful sensations. We want to know what these sensations mean and what is their relation to the central or common cause which upsets the balance of the different organs and symptoms. Again, we waste vast sums on drugs and yet we know little as to the real effects of many remedies. In making known and analysing the action and uses of many drugs which he employs, a vast field of useful work lies open to the general practitioner. But if we expect and desire the general practitioner to play this ideal and necessary rôle he must be helped and be provided with better facilities than he now commands. Fitful progress is being made in this direction, but it is the exception rather than the rule. Our present day and future policy should be to remedy this and directed to making each Local Authority have so clear and serviceable an apprehension, both of the problem and its own share as to the means of its solution, that in each area there exist full local facilities for the general practitioner in respect of clinical and pathological laboratories, clinical centres for consultant advice, and co-operation with colleagues in his vicinity and easy access.

If this policy could be developed and made universal throughout the land, I foresee great advances and not a little by the agency of the general practitioner. I confess to great sympathies with these outposts of preventive medicine. Too long they have struggled against hopeless conditions, without laboratory facilities, without clinical centres or hospital accommodation and without or with only partial auxiliary aids such as nurses, midwives, dispensers and expert lay workers in electrical treatment and massage. No imposing hospitals will bring curative and preventive medicine into the homes of the people ; that can be done only by the general practitioner. He is the man to whom comes incipient disease and if it is to be diagnosed before real damage is done, he must do it by the careful analysis of symptoms, by the use of laboratory methods and by the study of the whole art and science of prognosis and prevention. By providing him with means to help himself, I feel sure that in matters of health and all that pertains to the welfare of his district the general practitioner will indeed be the father of his people.

The recommendations made in respect of this matter by the Consultative Council of the Ministry of Health whereby secondary and primary health centres are proposed to be established are a great advance and a recognition of the views just expressed. In its broad outline, the scheme supplies that proper linking up between centre and periphery which so long has been wanting in the organisation of the health services of the country ; but. it must be remembered that the economic circumstances for the orderly working out of our sanitary salvation are far from promising. In this,

as in some other matters, we need to be patient and also encouraged because the connection between the general practitioner, the consultant, the specialist and their auxiliaries, as well as the ways in which domiciliary and institutional treatment affecting each class have been well thought out and a scheme presented full of promise for better things. Optimistic and hopeful as I am as regards this question, I am tempted to utter one word of warning. Let us not forget that, as the provision of medical service extends, the Ministry of Health will acquire an increasing control over medical policy and consequently over the medical profession. I shall watch developments with keen interest, but I shall be sorry to see the centre of gravity of a learned profession drift into the hands of a Government Department. Professions, like nations, have need of self-determination and the advocates of vocational representation will need to see that the principle is not lost to view.

The remedy appears to me to lie in the formation of local medical consultative councils with functions analogous in their relation to the local health authority with that of the consultative councils of the Ministry of Health, coupled with adequate direct representation of the profession on all administrative bodies connected with the Public Health.

There, are, however, some other aspects connected with the general practitioner in relation to Preventive Medicine which should be borne in mind. Undoubtedly, the general practitioner could do much good work in furthering the objects of disease prevention by a timely understanding of early symptoms and signs, but we must remember that the prime function of the general practitioner is to treat disease, and that the public ever regard him in that light ; and it follows that his potentialities in respect of preventive medicine are likely to be indirect and secondary to curative medicine. In the sphere of preventive medicine, the employment of whole time officers of special training is inevitable and not replaceable by general practitioners, but I cannot but think that a closer co-operation between the work of those officers and that of the general practitioners might be organised. The administration of the Public Health Acts has not only failed to attract the sympathetic co-operation of the general practitioner, but I fear it has sometimes tended to divorce his interest in the work. This is to be regretted, as the opportunities to do good preventive work come daily to the general practitioner. Therefore, if the work and position of the general practitioner is to develop along proper lines, he must be given a definite place in the scheme of preventive medicine, more especially in such spheres as pre-natal work, infant welfare, national health insurance and the Poor Law Service. This and cognate problems can only reach a satisfactory solution by a root and branch reform of our public health proceedures and organisation, and

doubtless will receive full attention when public health administration is revised and remodelled. But even so, *quâ* preventive medicine, is all well with the general practitioner, either as a student or as a finished product of the schools? I am afraid not. If he is to take any important part in the prevention of disease in the future, he must be taught prevention systematically and thoroughly as a student. I recall my own student days, and how small, if any, a part the prevention of disease occupied in my studies as compared with the diagnosis and treatment of disease already existing. It happened that I went into the army and there I was confronted at once with the preventive side of medicine, and found that I had much to learn which should have been taught me before. I was forced to think as much of the unit aggregation of men as I was of the individual man. I believe things are somewhat better now in the medical schools, but, judging by what I have seen and heard among young graduates there remains yet more to be done. The aim of medical education should be not only to turn out expert clinicians, but also to produce a body of practitioners with enthusiasm for prevention and with sufficient knowledge and interest to make certain that some, if not all, will contribute to the future progress of preventive medicine. The immediate dramatic appeal may be wanting as compared with the successful treatment of some urgent case, but viewed in full perspective it is obvious that where the treatment of diseased persons deals with individuals, successful prevention affects thousands, and has a far-reaching effect upon human happiness and progress by eliminating that worst of handicaps, called ill-health. Do not think that I am advocating more lectures to youths, far from it. What I do advocate is some scheme whereby the student should be brought into contact with the realities of epidemiology and preventive medicine. This well might be done by developing in each centre of learning a preventive medicine investigation bureau with a suitable and competent investigator in charge. In such an epidemiological laboratory, systematically supplied with all the information which is received in the routine course by the public health departments, central and local, individual or groups of students could be made to follow the history of various outbreaks of disease, to note the waxing and waning statistics of morbidity, to realise the action taken by the sanitary authorities and to receive expert opinion and explanation of why and wherefore. True, the sense of responsibility would not be there, but the student in such an atmosphere of facts and reasoned action, based on those facts, would appreciate and grasp the essence of scientific prevention of disease. Given such an insight into the meaning and working of the public health service, the young practitioner

would start life knowing that in each town or village of the country there are some eight or ten governing bodies concerned with public health, supervised, aided or directed by a similar number of central departments of the State. He would be familiar with the principal means of administration as it affects domiciliary and institutional treatment and thus realise the essential unity of curative and preventive medicine and that he is the first line of defence and attack in the warfare of disease prevention. I question whether this view is sufficiently grasped by the profession as a whole, and it is to urge its importance that I have dwelt upon the point.

Notwithstanding that I have occupied so much of your time in expressing views as to the outposts of the organisation for disease prevention, I ask your indulgence for the expression of some thoughts concerning the actual staff officers of that service. I refer to the officers of the central departments and to that great and honoured body of men known as medical officers of health. Other than express the hope and conviction that it will press forward the initiation and direction of Research, I would say little as to what I think the Health Army Council or Ministry of Health should do, because I feel that if it can but do that which the Ministry of Health Act, 1919, empowers the Ministry to do, then it will indeed have justified its inception and the grateful thanks of the community. With the Central Research Committee as a controlling nucleus, the development of local centres of research throughout the land appears to be within the range of practical politics, and I have reason to think that such is the policy which occupies the thoughts and aims of the able and far-seeing men who at present control the new Ministry of Health. It is for us to be patient and hopeful of the best results.

Few appreciate more than I do the great work which has been done by medical officers of health all over the country ; these are the men whom I picture as officers of the general staff of the great army mobilized against disease. Their work has long appeared to me to be badly organised and unequal. They are handicapped by having to work under and see the putting into effect of a number of Statutes bearing upon Public Health which are unduly complex and often overlapping. The prospect of an early consolidation, codification or revision of the public health laws seems remote but, in any such revision, it is to be hoped that the responsibility for the prevention of disease will be made to rest with one authority. At present, varying authorities are brought into operation by various Acts of Parliament, with the result that the Public Health is really in the hands of many departments of the central government and in the hands of many officers and departments locally. How the machine works as well as it does has

always been a mystery to me. Intimately associated with any revision of the public health laws is the question of the unit area of administration. Except in the large towns, the unit area is too parochial and my own view is that so far as the rural and suburban areas are concerned these must be grouped into very much larger administrative units both for efficiency and economy. For my own part, I conceive the division of the country into some dozen or fourteen large areas each administered by a Commissioner of Health with plenary powers, responsible only to a central health Council in Whitehall, and with deputy commissioners as executives under him in the local areas. Possibly it is but the vision of an idealist, and one which I am not likely to see come into being.

In my ideal local authority I conceive the adoption of the following principles: the concentration in one authority in each local area of the responsibility for the full administration of health services from local rates, with or without Exchequer grants in aid, coupled with the use for the whole community of Poor Law medical institutions worked by a single public health service, built up by an amalgamation of the existing services for Poor Law and national health insurance. In a word, I favour the making of a new and independent local health authority to undertake new and consolidated functions in definite areas. As to what the areas should be, I foresee the subject of controversy, but, if the three principles of (1) a consciousness of a community of interest and aim; (2) the need for uniformity of administration, and (3) a representation of the will of the people as a whole, be steadily kept in view, there should ultimately be no difficulty in arriving at a sound solution of what is a difficult question. Whatever may be the final development, I hope that future health administration will not be hidden away in some corner of either an existing or future public body. It must be a clearly defined and independent branch of our social organisation. In any event, the profession of medicine must be prepared to take a much larger share in local administration than it has done in the past, but ever tempered by the view that, no matter how much the driving force behind it may be medical in origin and in reason, the local unit of health government can never be wholly medical in personnel or in purpose. It must be comprehensive, catholic and disinterested.

Whatever the future may have in store for us either as to future legislation or areas, it is clear that public health administration is becoming so complex and technical or varied that only the very best men should be employed or be eligible for employment as medical health officers. This can be secured only by remodelling the training and examination of candidates. To my mind, there are too many portals for obtaining the D.P.H. and the

time is ripe for revising the training and qualification of men claiming to join the public health service, particularly in the direction of a levelling up of preliminary scientific attainments and a knowledge of the practical side of the work. Personally, I would like to see the institution of a State examination but this again may be but the dream of an idealist. Once appointed as a medical officer of health, the field of investigation lying before a man appears to be almost boundless. I mention but a few instances such as the analysis and differentiation of bills of mortality, deductive inquiries as to the causes and conditions of high ratios, dietary in relation to nutrition, dietary and energy among industrial workers, factors affecting susceptibility or resistance of the individual, the acute, the chronic and intermittent carrier, causes of recurring waves and cycles of infection, factors affecting susceptibility or otherwise of a community and the inter-relationship of disease. The mention of this last example tempts me to say how much we need constructive work to render precise the still vague notion of an epidemic constitution. For many years we were dominated by the dogma that specific diseases were real things to be found in the post-mortem room and that epidemics were to be avoided by sanitation. Both beliefs were the outcome of Victorian realism and even systematic bacteriology has failed to give us equilibrium since no bacteriological solution of epidemics has yet been achieved. We are still groping in the dark and perhaps have dwelt too much upon materialistic instead of vitalistic interpretations of biological facts. We need accurate and comprehensive work as to the importance of *Bildung* as well as to that of *Gestalt*. I for one am unable to accept at face value the work of a man with his eyes glued to the ocular of his microscope as a valuable contribution to the epidemiology of influenza or any other disease. To me, a more truly valuable contribution to the epidemiology of an epidemic would be rendered by the man who could correlate and interpret the whole of the antecedent prevalent disorders and thus anticipate and diagnose the existence of an epidemic constitution before the death returns and notifications were sensibly affected. The various medical officers of health are the privileged first recipients of the early signs, and to their acumen and learning do we look for their correct and early reading. Therefore, in respect of these matters, a great field of difficult research lies open and before these public health general staff officers, but that the best use may be made of the opportunities only the best men should be appointed to that general staff. Moreover, I would add, since they constitute the specially trained and most experienced administrators in public health, I hope that they will be given every opportunity and encouragement to lend a hand in the great work of reconstruction which lies before us.

I have been able to offer you little that is new, but the lesson is clear, that, as in the past, so in the future, prevention of disease cannot be imposed by edict, be it by a Ministry of Health or any other Ministry. The banishment of disease and invalidism in a community can only be secured on a basis of individual enlightenment in regard to the principles and practice of personal and family hygiene, and it will be complete only when the knowledge of the proper use of fire, air, earth and water is appreciated by all. Sanitary authorities can make it easy for this knowledge to be disseminated in efficient and practical channels, also the civic life of the community and the public services run by such authorities may be object lessons for the individual citizen, but the ignorant, the prejudiced and the selfish man will continue able to spoil the hygienic circumstances of his own life and those of his relations and neighbours ; and this means that knowledge and education are the chief and only effective instruments among the public in the prevention of disease. Even all of us interested in Preventive Medicine, and the would-be guiders of the general public, I conceive as really standing at the door of opportunity but fumbling at the lock, trying to open it. The cause of our fumbling is that we have not the key or, at best, have but an imperfect key which fails to fit all the wards of the lock ; the perfect key which still we lack is knowledge.

These, then, have been my thoughts and they are " Thoughts of things which Thoughts but tenderly touch." Actually, they are a confession of our ignorance and a plea for knowledge and the wisdom to make good use of that knowledge. It is sufficient to remind you, as practical men and women, that the word of action is stronger than the word of speech, but action without knowledge is action in vain ; moreover, the knowledge which a man can use must be real knowledge, and the real knowledge which we need is the master-word of the New Humanity. " The rest hangs as dust about the brain or dries like raindrops off the stones." I conclude with Tennyson's words ;

> Who loves not knowledge ? Who shall rail
> Against her beauty ? May she mix
> With men and prosper ! Who shall fix
> Her pillars ? Let her work prevail."

OBITUARY.

Lieut.-Col. Alfred Stowell Jones, V.C., M.I.C.E., J.P. (Berks).

Col. Jones, who died at Finchampstead on May 29th, 1920, at the age of 88½ years, was the last surviving member of the first Council appointed by the Sanitary Institute in 1877. At that time he had just retired from a brilliant military career in India during which he had been awarded the V.C., and had also received severe wounds, which resulted in the loss of one eye and other disablement. Whilst in the Army in India he continued his studies, and passed an examination in civil engineering and surveying, and on his retirement from the Army in 1872 he became the tenant of Wrexham Sewage Farm and consulting sanitary engineer to the Wrexham Urban authority, being at that time 40 years of age. Here he set himself the task of putting things in order and of proving that with proper skill in management the sewage of a town could be efficiently purified by land treatment. He became a well-known exponent on this method of treatment, and obtained the award to Wrexham of one of the only two prizes ever offered for competition for the best-managed sewage farm by the Royal Agricultural Society.

In 1878, after six years' working of the farm, he wrote his well-known pamphlet, "Will a Sewage Farm pay?" In 1884 he gave evidence before Lord Bramwell's Commission on Metropolitan Sewage Discharge, and his suggestions attracted a good deal of attention and commendation.

His connection with the Wrexham Sewage Farm ended in 1891, and in 1895 he was asked by the War Office to report on the Aldershot Camp Farm, and was eventually appointed manager at the age of 63, and held office for 17 years, retiring in 1912 at the age of 80, after a very active life full of many interesting incidents.

Col. Jones married in 1863 Emily, daughter of the late John Back, of Aldershot Place, Surrey, who died in 1918, having some years previously celebrated their golden wedding. He leaves one son and one daughter, four very promising sons having pre-deceased him, the last one, Percy, having fallen in Mesopotamia during the war.

J. E. W.

THE ROYAL SANITARY INSTITUTE.

FOUNDED 1876.

REVIEWS OF BOOKS.

FOOD POISONING AND FOOD INFECTIONS.*

This book forms one of the volumes on Public Health, published by the Cambridge University Press, and is intended for the Medical Profession, Sanitary Inspectors, Municipal Engineers, Bacteriologists and Laboratory Students.

The object of the work is to set forth the up-to-date views on the causes of Food Poisoning epidemics, and to suggest those preventive measures which practical and past experience has taught us will give us due security in the future.

The introduction deals with the various sources of food poisoning, both natural and artificial, and gives a brief historical survey of the causes which must have produced the epidemics which history informs us so frequently appear, exact their toll of human suffering, and then disappear.

It mentions the views held, and traces their development to the present or bacterial origin of food poisoning, and shows how the "ptomaine" hypothesis, which for many years was taken to be the main cause of food poisoning outbreaks, has come to be discredited.

The causes of food poisoning are next dealt with in detail, under the following heads :—

(1) From animals—their flesh or milk,
(2) Fish,
(3) Plants,
(4) Food idiosyncrasy,

and these are followed by the general and clinical features which accompany food poisoning outbreaks.

A chapter is devoted to the Gaertner group of bacteria, in so far as they relate to food poisoning, and this is followed by Putrefaction, its causes, results and prevention.

The last chapters of the book deal with chemicals added to food unintentionally, as arsenic in beer made from commercial glucose, lead from earthenware glazes, and tin from tinned foods, and those chemicals which are added for a definite purpose, namely, boric acid, sulphites, and the like, as preservatives.

The last two chapters are particularly intended for Sanitary or Food Inspectors, and deal with the prevention of food poisoning by proper control of all manipulated food from its origin or growth to its consumption.

* FOOD POISONING AND FOOD INFECTIONS, by William G. Savage. 8vo., 247 pp. Cambridge University Press, Cambridge, 1920. Price, 15s.

The measures which should be taken to limit an outbreak are outlined together with the kind of investigation—bacterial and chemical—which should follow every outbreak.

The book shows evidence of being compiled from first hand experience, and will form a useful book of reference for those professional men who are interested in problems of food poisoning and infection. S. R.

Marine Hygiene and Sanitation.*

Dr. Gilbert E. Brooke, in his "Marine Hygiene and Sanitation," has done more than he pretends.

His work, in fact, has resulted in the production of a "Text Book," filled from cover to cover with information and "tips" helpful to intending Port Medical Officers and Ship's Surgeons, and with the lore of his subject.

Selections from the current laws and regulations, bearing upon the chapter subjects, either afford a working information or indicate where these matters can be pursued: the taste of the scientist is whetted by biological tables, and practical methods described with a terseness that is admirable.

Conclusions on debateable subjects must, of necessity, be abruptly stated in a book of some 400 pages only, which covers so much ground. When the present edition is run out, as should shortly happen on its merits, Sulphur Dioxide produced by open burning of sulphur, as a disinfectant, should be less hardly dealt with. Page 283 should be entirely rewritten in the light of ship infections of Plague which have occurred during the war, and have been closely dealt with and inquired into at the terminal ports of the voyages; in Western waters and often in Eastern, human Plague is derived from rat infections on board the ship, and, moreover, complete disinfestation should not be attempted until the ship is cleared of cargo.

Small Pox, *sine eruptione*, is an interesting fact rather than an "idiotic idea," though, of course, it is profitable that the case with a rash should receive infinitely greater attention than one in which the rash might have appeared, but does not—a small point of cavil, and one arising, perhaps, out of the breezy readable way in which the book is written.

There was a gap in one's shelf awaiting the compendium of information, which Dr. Gilbert Brooke has produced, and the book is commended to every inquirer into Marine Hygiene and Sanitation. W. M. W.

Tuberculosis and Public Health.†

Dr. Hyslop Thomson's aim in writing this book was to provide a short and concise study of the problem of tuberculosis in relation to Public Health, and he has succeeded. The book is small, running to just over 100 pages, and he has put his views very concisely, indeed; has not elaborated them any more than it is necessary that they should be elaborated. Dr. Hyslop Thomson accepts and sets out the opinions generally held with

* Marine Hygiene and Sanitation, by Gilbert E. Brooke, M.A., L.R.C.P., D.P.H., F.R.G.S. 8vo., 409 pp. London, 1920. Baillière, Tindall and Cox. Price, 15s.

† Tuberculosis and Public Health, by H. Hyslop Thomson, M.D., D.P.H. 8vo., 104 pp. Longmans, Green, and Co., London, 1920. Price, 5s.

regard to the disease, and without hesitation defines tuberculosis as " The morbid expression of conditions of life incompatible with a high standard of physical health and vigour " ; and declares it to be " one method by which Nature protests against an unnatural system of living." Bad housing, in common with many others, he regards as the chief causative factor, and in this connection, professes to believe that the demand for the construction of half a million new houses in England and Wales, " opens up a new era of house construction with great possibilities for the future of which, it is hoped, full advantage will be taken." In regard to housing also, he declares that the question of the provision of houses for persons suffering from tuberculosis, though a difficult problem, is one calling for immediate attention. There is a misprint on page 33, where the well known views of Professor Leonard Hill are set out, that distinguished authority being made to attach little or no importance to an excess of *carbolic* acid in the air of a crowded room.

Dr. Hyslop Thomson's book is intended for non-medical readers as well as for members of the medical profession. It is short, pleasantly and simply written, and will be found of service by both sets of readers as an introduction to the study of the problem.

C. P.

MEETINGS HELD.

CONGRESS AT BIRMINGHAM.

The Thirty-First Congress of the Institute was held in Birmingham from July 19th, to 24th, 1920, under the Presidency of the Right Hon. Viscount Astor. This is the second Congress the Institute has held in Birmingham, the previous occasion being in 1898.

Very suitable accommodation was provided for the meetings in the Town Hall, the University, the Council House, and the Birmingham and Midland Institute, and excellent arrangements were made for the reception and convenience of Members and Delegates, and were much appreciated by those attending.

On Sunday, July 18th, a special Service was held in the Cathedral, the Sermon being given by the Right Rev. The Lord Bishop of Birmingham.

The Congress was received by the Right Hon. The Lord Mayor, and the first General Meeting took place on Monday, July 19th, when Viscount Astor was installed as President of the Congress and delivered his Inaugural Address.

The Lecture to the Congress was delivered by Sir Frederick W. Mott, and the Popular Lecture by Dr. Andrew Balfour.

The business of the Congress was divided into five Sections and seven Conferences (particulars of which were given in the Supplement of the last

issue of the Journal), and for the first time the programme included a Conference of Rat Officers, which was well attended. During the Congress seventy-eight Addresses, Lectures and Papers were read at twenty meetings.

The Members and Delegates were most hospitably entertained at a Reception and Conversazione in the Council House and Art Gallery by the Lord Mayor and Lady Mayoress ; at Garden Parties by the Chairman and Members of the Sanitary Committee and Messrs. Cadbury Bros. ; and at Excursions and Visits by the Mayor and Mayoress of Lichfield, the Mayor of Stratford-on-Avon, the Salvage and Stables Committee at the Montague Street Salvage Works, and by Alderman Martineau, C.M.G., Chairman of the Water Committee. Visits were also made to Electric Generating Station, Tuberculosis Dispensary, Yardley Road Sanatorium, the University at Bournbrook, the Meat Markets, Maternity and Child Welfare Centres, School Clinics, Sewage Farm, etc.

The numbers attending the Congress were :—700 Delegates, representing 390 Foreign and Colonial Governments, Government Departments, Municipal Authorities, and Learned Institutions ; 280 Fellows, Members and Associates of the Institute (in addition to those appointed Delegates) ; 96 Associates of the Congress, Ladies, and others ; 124 Complimentary and Press— making a total of 1,200.

Reports of the work done in the different Sections and Conferences, and the Resolutions passed, were read by the Respective Secretaries at the Closing Meeting, and the Resolutions were referred to the Council of the Institute for consideration. Votes of thanks were accorded to the Local Committee and to those who had so hospitably received the Members and Delegates during the Congress.

The Exhibition was arranged in the Bingley Hall and represented the various factors tending to promote Public Health. Government Departments were represented by the War Office Army Medical School, the Office of Works, and the Ministry of Munitions (Department of Building Materials Supply) Municipal Hygiene was represented by exhibits illustrating the work of the several Departments of the Birmingham Corporation ; Voluntary Work by the St. John's Ambulance Association, Lord Roberts' Memorial Workshops, the Birmingham Architectural Association, the Royal Society for the Prevention of Cruelty to Animals and " Our Dumb Friends' League " ; and the various aids to health and comfort provided by commercial enterprise were shown by a number of firms.

The exhibits were well set out and formed a very comprehensive and effective Exhibition. There were 96 exhibitors, and the Judges awarded 18 Silver and 52 Bronze Medals.

A programme of Demonstrations and Popular Lectures was arranged at the Exhibition, and the thanks of the Institute are due to :—St. John's Ambulance Association ; Dr. T. W. Beazley, Assistant M.O.H. ; R. A. Chattock, City Electrical Engineer ; Frank T. Cox, Housing Director ; Dr. W. H. Davison, Assistant M.O.H. ; B. Devine, F.R.C.V.S. (Supt., Veterinary Dept.) ; J. Jackson, Supt. Salvage Dept. ; E. Antony Lees, O.B.E., Manager Water Department ; Dr. Emily Macirone ; Prof. J. Robertson, C.M.G., M.O.H. ; R. J. Rogers, Fittings Supt., Gas Dept. ; Dr. Rose R. Molloy, Assistant M.O.H. ; W. T. Travers, F.R.I.B.A., Deputy Housing Director, who made arrangements for the demonstrations, and delivered lectures.

It was announced that the next Congress would be held in Folkestone at the end of June, 1921, by the invitation of the Mayor and Corporation.

Sessional Meetings.

Scarborough.—The meeting was held, jointly with the Society of Medical Officers of Health, in the Council Chamber, on Friday, May 14th, at 7.30 p.m. A discussion on " Inconsistencies in Personal and Communal Hygiene " was opened by James R. Kaye, M.B., C.M., D.P.H. The Chair was taken by Professor H. R. Kenwood, C.M.G., M.B., F.R.S.E. The members were received and entertained by His Worship the Mayor.

On Saturday, May 15th, visits were made to the Nursery School, the Sea Scouts School, the Child Welfare Centre, the School Clinic, and other places of interest in the district.

Lincoln.—The meeting was held in the Municipal Technical School on Friday, June 11th, at 7 p.m., when a discussion on " The Development of Maternity and Child Welfare in a Smaller County Borough," was opened by C. J. Coleman, B.A., M.D., D.P.H., Medical Officer of Health, Lincoln. The Chair was taken by Professor H. R. Kenwood, C.M.G., M.B., F.R.S.E. The members were received by His Worship the Mayor, and entertained at luncheon by the Corporation.

On Saturday, June 12th, visits were made to Infant Welfare premises, a Maternity Home, and other Municipal Undertakings, and to the Cathedral.

Examinations.

Since the last issue of the Journal the following examinations have been reported :—

London, April 30th and May 1st.	Leeds, June 11th and 12th.
London, May 7th and 8th.	Belfast, June 16th and 17th.
Cardiff, May 14th and 15th.	Dublin, June 18th and 19th.
Norwich, May 28th and 29th.	Birmingham, June 25th and 26th.
Liverpool, June 4th and 5th.	Birmingham, July 2nd and 3rd.
Winnipeg, June 7th and 8th.	Leeds, July 9th and 10th.

At these examinations 531 candidates presented themselves, and the following were awarded certificates :—

Sanitary Science as applied to Buildings and Public Works.

BAKER, THOMAS WILLIAM, *Matlock.*
BELL, GEORGE EDWARD SPENCER, *Northampton.*
EDSER, VICTOR CHARLES, *Stepney.*
HUGHES, HERBERT FREDERICK, *Clapham.*
HYPHER, FRANCIS ALOYSIUS, *Stamford Hill.*
MITCHELL, NORMAN HENRY, *Birmingham.*
LOVE, CASTOR JENNINGS, *Belfast.*

Maternity and Child Welfare Workers.

BINTCLIFFE, ALICE, *Walthamstow.*
DALBY, NORAH LILIAN, *Walsall,*
IRVING, ANNIE WINIFRED, *Bromley.*
JENKINS, MARY VAUGHAN, *London.*
MARTIN, LILIAN MARY, *Seven Kings.*
MORGAN, FLORENCE ANNIE, *Borough.*
MOLLOY, MARY, *Greenwich.*
MOODY, MARIAN, *Newcastle.*
SAUNDERS, ANNIE, *Walsall.*
TAIT, MARY, *Norwich.*

Inspectors of Nuisances.

AGUTTER, MARGARET ELIZABETH, *Leeds.*
ASPINWALL, KENNETH, *Southport.*
ANSCOMBE, PERCY REGINALD, *Petersfield.*
BAKER, THOMAS, *Lozelles.*
BARLOW, WILLIAM GEORGE, *Birmingham.*
BAXTER, LEONARD THOMAS, *Catford.*
BEST, RICHARD ALBERT, *Aberavon.*
BINNS, JAMES ARCHIBALD, *Clapham.*
BINNS, THOMAS WILKINSON, *Oakworth.*
BIRD, REGINALD, *Ripon.*
BLACKMORE, FRANK WILLIAM, *Kettering.*
L BOYLAN, SUZETTE, *Sale.*
L BRENNAND, FLORENCE GWENLLIAN KERR, *Lambeth.*
BROCKWAY, ERNEST EDGAR, *Chertsey.*
BUCKLE, HEDLEY HAROLD, *Barnet.*
BURROWS, FRANK STANLEY, *York.*
BURSTON, ARTHUR RICHARD, *Malvern*
CAMERON, JAMES, *Winnipeg.*
COLLINS, WILLIAM RICHARD, *Ham.*
CONSTABLE, PHILIP HERBERT CARDO, *E. Barnet.*
L COOK, GLADYS, *King's Norton.*
COOKSON, RICHARD, *Manchester.*
CRANDELL, WILLIAM, *Wimbledon.*
CRAPPER, EDGAR VINCENT, *Rock Ferry.*
CROCKER, WILLIAM JOHN, *Hammersmith.*
DALEY, MICHAEL, *Pontypridd.*
L DONALDSON, JANETTA STEVEN, *Cardiff.*
DOWNING, HENRY EDWARD, *Clapton.*
L DOWNING, MARY JANE, *Rhigos.*
ELLIOTT, BERNARD GOWARD, *Market Harborough.*
ENGLISH, PERCY WILFRED, *Ipswich.*
L EVANS, FRANCES EMILY, *Long Compton.*
L EVANS, FRANCES RUTH, *Whitchurch.*
FELL, ALBERT, *Stockport.*
FFOULKES, WILLIAM ROWLAND, *Manchester.*
FITTON, ALBERT EDWARD, *Blackpool.*
L FITZPATRICK, ANNE T., *Bury.*
FLOOKS, CHARLES JOHN, *Bushey.*
FOSTER, GEORGE, *Leeds.*
GODDEN, WILLIAM JOHN GEORGE, *Waterloo.*
GRAHAM, JOHN SYDNEY, *London.*
GREEN, ARTHUR, *Burton-on-Trent.*
GREEN, GEORGE WILLIAM, *Kimberley.*

GREENFIELD, CHARLES EDWARD, *Brighton.*
GILL, THOMAS GEORGE, *Winnipeg.*
GYPPS, WILLIAM JOHN, *Dunmow.*
HARGRAVE, CLAUDE HARRY, *Winnipeg.*
HARVEY, FREDERICK DANIEL, *Chiswick.*
L HEMINGWAY, OLIVE, *Carrickfergus.*
HINDMARSH, JOHN, *Riding Mill.*
HIGNELL, CHARLES ALBERT, *King's Lynn.*
HOARE, FRANCIS JOSEPH, *Bournemouth.*
HUTCHINSON, BENJAMIN EDWARD, *W. Croydon.*
L JAMES, GWENLLIAN, *Cardiff.*
JONES, MORRIS, *Penrhyn.*
L KNOTT, MAUD MARY, *Tredegar.*
KNOX, WILLIAM, *Winnipeg.*
LAVERICK, GILBERT JOHN, *Bishop Auckland.*
L LOCK, FLORA MARY, *Cardiff.*
L LONG, SARAH ALICE, *Birmingham.*
LOVELESS, GEORGE JERRED, *London.*
LOWE, HORACE DONALD SAM, *Walsall*
MARTIN, WILLIAM, *Tottenham.*
L MCCULLOUGH, ETHEL EWART, *Belfast.*
MILLER, WILLIAM MOORE, *Belfast.*
MILLS, HAROLD, *Leeds.*
MUSSON, ANNE ELIZABETH, *Belfast.*
NAYLOR, FRED CROWTHER, *Pudsey.*
NEWBERRY, CHARLES WILLIAM, *London.*
OWENS, BRINLEY DAVID, *Swansea.*
*L*PERRIN, AMY ROSA, *Kensington.*
POULTER, LAWRENCE, *Churwell.*
L RALPH, IDA MARY, *Coventry.*
RICHARDS, HENRY GEORGE, *Axminster.*
RICHARDS, PERCY CYRIL, *Penkridge.*
RICHARDSON, FRANK UPSALL, *Nottingham.*
RILEY, WILLIAM, *Keighley.*
ROE, GEORGE HENRY, *Smethwick.*
ROWLAND, BERTRAM AMBROSE, *Hendon.*
SCOTT, EDWARD, *Kilburn.*
SEEAR, ALFRED, *Winnipeg.*
SHAW, GEORGE HERBERT, *W. Bromwich.*
L SHEWELL, MIRIAM, *Moseley.*
SIDDLE, FREDERICK EDWIN, *Bow.*
SMITH, FERGUSON GLADSTONE *Edmonton.*
SMYE, HERBERT EDWARD, *Ipswich.*
L STEVENSON, ELSIE MARGARET, *Sutton Coldfield.*
SUTCH, FRANK, *Deptford.*
TILLEY, WALTER HENRY, *Wolverhampton.*
TOOBY, WILLIAM SIDNEY CHARLES, *E. Ham.*
TROTTER, HARRY WINTER THEODORE, *King's Lynn.*
WALKER, GRANVILLE, *Leytonstone.*
L WALLINGFORD, ALICE MINNIE, *Newtown.*
WALTON, JOHN KENNERLEY, *Leeds.*
WALTON, THOMAS EDWARD, *Ardwick.*
WARD, HORACE, *Wombwell.*
WARD, MATTHEW, *Belfast.*
L WEBSTER, ELIZABETH, *Bury.*
WEBSTER, JACK ROLAND, *Winnipeg.*
WHITE, HAROLD, *E. Croydon.*
L WIGLEY, PHYLLIS, *Leeds.*
WILLIAMS, ARTHUR SYDNEY, *Kidwelly.*
L WILLIAMS, LIZZIE, *Swansea.*
WOODMAN, ALBERT JOHN, *Clapham.*
L WRIGHT, MARY GLEN MACDONALD, *Whalley Range.*
WROE, WILLIAM, *Manchester.*

Women Health Visitors and School Nurses.

BAILEY, HILDA, *Brockley.*
BARBER, ELIZABETH, *Barnsley.*
BARLOW, LILY, *Warrington.*
BARNETT, DOROTHY, *Forest Gate.*
BARRETT, CAROLYNE YEOMAN, *St. John's Wood.*

Bartholomew, Louisa Elizabeth, *Marylebone.*
Beckett, Daisy Mary Emily, *Woolwich.*
Bensted, Fanny, *Doncaster.*
Blair, Hilda, *Gateshead.*
Boyd-Mackay, Frances Elizabeth Mary, *Headingley.*
Burdin, May, *Leeds.*
Burton, Elsie Gertrude, *Basford.*
Calipé, Adelaide Georgina, *Hammersmith.*
Carmichael, Emily, *Birmingham.*
Chambers, Eva Rebecca, *Manchester.*
Clayton, Florence Nesfield, *Leeds.*
Cook, Ellen Elizabeth, *Barking.*
Cook, Frances, *Bideford.*
Cook, Gwendolin Gertrude, *Selly Oak.*
Cooper, Mary Beatrice, *Sedgley.*
Crooke, Jane Bernard, *W. Bromwich.*
Crowe, Eileen Barrance, *Richmond.*
Donald, Margaret Mary, *Leeds.*
Dorkins, May Providence, *Leyton.*
Drew, Edith F., *Newport.*
Dunsmore, Jessie, *Manchester.*
Edmunds, Mary, *Cardiff.*
Evans, Eleanor, *Bridgend.*
Fitzmayer, Charlotte Sophia Howard, *Kensington.*
Flanagan, Mary Patricia, *Tooting.*
Gibbs, Gladys Ethel, *Cardiff.*
Godtschailk, Louise E., *London.*
Goulding, Ethel Maud, *Clapham.*
Griffiths, Ruth, *Pontycymmer.*
Hill, Jessie B., *Leeds*
Hockin, Gladys May, *Borough.*
Hogg, Marion Bell, *St. Pancras.*
Hughes, Marie Gladys, *Anfield.*
Hulme, Alice, *Bishops Stortford.*
Ineson, Elizabeth, *Wortley.*
Ireland, Williamina Bertram, *London.*
Jameson, Constance, *Leeds.*
Jeffries, Elizabeth, *Watford.*
Jenkins, Mary Vaughan, *London.*
Kay, Alice, *Leeds*
Kekwick, Ada Rosalind, *New Beckton.*
Kelly, Helen Elizabeth, *Edinburgh.*
Laidlaw, Elizabeth, *Gateshead.*
Law, Emily Mary, *Woolwich.*
Lewis, Alice Maud, *Southport.*
Le Pla, Elsie Russell, *Tottenham.*
Lloyd, Edith Mary, *Yeadon.*
MacManus, Emily Elvira Primrose, *London.*
Macpherson, Mona Kate, *Leeds.*
Moore, Maud Louise, *Walsall.*
Morgan, Amy, *Maesteg.*
Morgan, Annie, *Fairwater.*
Mott, Florence Annie, *Westbourne Park.*
Newton, Frances, *London.*
Oddy, Georgina Bertha, *Forest Gate.*
Palmer, Evelyn Amelia, *Formby.*
Parker, Marianne Jane Esme, *Cardiff.*
Partridge, Helena Augusta, *Liverpool.*
Pattison, Mary Beatrice, *Leeds.*
Pepper, Florence, *Ipswich.*
Phillips, Hilda Margaret, *London.*
Piper, Harriet Florence Gertrude, *Brockley.*
Poskitt, Annie Atkinson, *Leeds*
Prickman, Margaret Jessy, *Hampstead.*
Pridmore, Annie Elizabeth, *Womersley.*
Prytherch, Mary, *Leeds.*
Pyle, Janet Mair Stevenson, *Euston.*
Reed, Nina Elrington, *Leytonstone.*
Sanderson, Katharine Graham, *Elstree.*
Sime, Effie Fleming, *Edinburgh.*
Smith, Elsie Lomas, *Leeds.*

TAFE, CICELY URSULA, *Willesden Green.*
THOMAS, ETHEL ALICE, *Putney.*
THOMSON, JAMESINA, *London.*
THOMPSON, CLARA, *Leeds.*
THORNTON, GRACE, *Woolwich.*
TURNBULL, GERTRUDE ALICE WATSON, *Crowthorne.*
TWIDELL, LOUISA KATE, *London.*
WALTERS, MARY CATHARINE, *W. Dulwich.*
WASHINGTON, ADA, *Leeds.*
WATLING, ROSE M., *Baker Street.*
WATTERSON, MARGARET, *Liverpool.*
WILLIAMS, GWENHWYFA, *Harlesden.*
WILLIS, DOROTHY DE LAVAL, *Peckham.*
WOOD, JESSIE EMILY, *London.*
WOODWARD, ELSIE AGNES, *Millbank.*

School Hygiene, including Elementary Physiology.

ADAMS, EDITH LILIAN, *Liverpool.*
ARMSTRONG, JANET HELEN, *Liverpool*
BASS, HENRIETTA ROSE, *Erdington.*
BLACKWELL, ELSIE, *Erdington.*
BLASHILL, MABEL, *Liverpool.*
BROOK, KATHLEEN MARY, *Liverpool.*
BUCKLAND, BARBARA MAY, *Liverpool*
BURTON, MARY WHITAKER, *Liverpool.*
COBBOLD, MILDRED, *Liverpool.*
CORMACK, EMMA MARGARET, *Erdington.*
COUCHE, ELSIE MURIEL, *Liverpool.*
DAVIES, PRIMROSE, *Erdington.*
DAVIS, MARGARET HILDA, *Erdington.*
DE ST. PAER, BASILE HENRI ROMERIL, *Leeds.*
DOWNING, ADA MARY GORDON, *Liverpool.*
FYFE, AGNES, *Erdington.*
GOURLAY, MARION JANE, *Liverpool.*
HERN, KATHLEEN MARY, *Liverpool.*
ILLINGWORTH, DORIS MARGAREL, *Liverpool.*
KITTO, WINIFRED ELAINE, *Liverpool.*
LACON, HELEN MINNIE, *Liverpool.*
LATHAM, CONSTANCE ENID, *Liverpool.*
LAYLAND, MARY DOROTHY, *Liverpool.*
MACGOWN, FLORENCE MARY, *Erdington.*
MACLACHLAN, DAISY ISABELLA, *Brighouse.*
MARTIN, KATHLEEN BERYL CONISTON, *Liverpool.*
ORCHARD, CONSTANCE, *Forest Gate.*
PALMER, MARGERY, *Liverpool.*
PEAKMAN, ADA VIOLET, *Moseley.*
PILLING, ETHEL, *Erdington.*
RAPP, DOROTHY LILIAN, *Liverpool.*
ROBERTSON, ELINORE MARY, *Liverpool.*
SAWERS, FRANCES JESSIE, *Liverpool.*
SCARLETT, LILY WINIFRED ELLIS, *Clapham.*
SCOTT, MARGARET, *Liverpool.*
SEAGO, MURIEL, *Harrogate.*
SHANN, SHEILA HILLIARD, *Liverpool.*
SHEDDEN, ELLEN MORNA, *Erdington.*
SMITH, CAROLINE CAMPBELL, *Liverpool.*
TUCK, KATHLEEN MARY POWELL, *Erdington.*
YORATH, AUDREY, *Erdington.*
WILLIS, ROSAMUND MARY, *Liverpool.*

Inspectors of Meats and other Foods.

BAILEY, FRANK, *Daventry.*
BAKER, WILLIAM ARCHIE NICHOLLS, *Maidstone.*
BEAUMONT, WALTER, *Coventry.*
BINNS, GEORGE, *Bingley.*
BINNS, THOMAS WILKINSON, *Oakworth.*
BISHOP, RAYMOND ALFRED, *London.*

Booth, Edmund, *Leeds.*
Capel, Sidney Walter, *Kentish Town.*
Chadwick, John, *Shipley.*
Cooke, William Edwardes, *Kidderminster.*
Cruttenden, Arthur Bertie, *Norbury.*
Dixon, Thomas Percival, *Middlesbrough.*
Driver, Harry Mitchell, *Garforth.*
Edwards, Leslie Ernest, *Leigh-on-Sea.*
England, Albert, *Shipley.*
Finn, Thomas Smith, *Wakefield.*
Foakes, William Warren, *West Bromwich.*
Ford, Albert, *Walsall.*
Franklin, Sidney Hulford, *Richmond.*
Hawker, Walter Thomas, *Chichester.*
Hemming, Ernest Charles, *Manchester.*
Mallinson, George Riley, *Harrogate.*
Mallinson, Harold, *Lindley.*
Mellish, Cyril Ernest, *Leyton.*
Neighbour, Herbert, *London.*
Nichols, Arthur Joseph, *Marsh.*
Noote, Percy Fred, *Whitchurch.*
L O'Riordan, Frances, *Chelsea.*
Palmer, John Charles, *Hayes.*
Pollard, Percy John, *Bradford.*
Poulter, Lawrence, *Leeds.*
Prideaux, Byron Thomas, *Plymouth.*
Pyatt, William George, *Bath.*
Rackham, Stanley George, *Oxton.*
Raistrick, James Albert, *Bradford.*
Richardson, John, *Leeds.*
Roberts, William, *Wakefield.*
Rose, Frederick Nathaniel, *Pimlico.*
Ross, John, *Bourne.*
Sewell, Thomas, *Bradford.*
Shepherd, Harry, *Bradford.*
Smith, Frank Radford, *Burton-on-Trent.*
Smith, John Henry, *Garforth.*
Spencer, Thomas Henry, *Leyton.*
Taylor, Sidney Thomas, *Bilston.*
Tutin, William, *Wakefield.*
Walton, John Kennerley, *Leeds.*
Watson, Arthur, *Midlothian.*
Whittaker, Douglas Ellis, *Hornsey.*
Willis, Edwin Ernest, *Hornsey.*
Woodman, Albert John, *Clapham.*
Woods, Gilbert Randell, *Norwich.*

FORTHCOMING MEETINGS.

Sessional Meeting.

Doncaster, October 15th and 16th.

Lectures.

The next course of Lectures for Sanitary Officers will commence on September 20th, for Meat and Food Inspectors on September 23rd, and for Health Visitors and Child Welfare Workers on September 24th.

Examinations.

In Sanitary Science as applied to Buildings and Public Works, for Inspectors of Nuisances, Maternity and Child Welfare Workers, Women Health Visitors and School Nurses, and School Hygiene, including Elementary Physiology, will be held at :—

York, Oct. 8th and 9th.
Nottingham, Oct. 15th and 16
Liverpool, Oct. 22nd and 23rd.th.
Queensland, October.
Newcastle, Nov. 5th and 6th.
Manchester, Nov. 19th and 20th.
London, Dec. 3rd and 4th.
South Africa, Nov.
Winnipeg, Dec.
South Australia, Dec.

For Inspectors of Meat and other Foods :—

Hull, Oct. 29th and 30th.
Liverpool, Nov. 26th and 27th.
London, Dec. 10th and 11th.
South Africa, Dec.

GENERAL NOTE.

Mr. H. W. Johnson, M.R.San.I., of the Technical College, Wellington, has been appointed Hon. Local Secretary of the New Zealand Board of Examiners.

CALENDAR FOR SEPTEMBER, 1920.

As far as at present arranged.

20 M. Lecture to Sanitary Officers, at 6 p.m. Public Health Acts—English, Scotch, Irish ; other Statutes relating to Public Health, by Wellesley Harris, M.R.C.S., L.S.A., D.P.H., M.O.H., Lewisham.

22 W. Lecture to Sanitary Officers, at 6 p.m. Public Health (London) Act, etc., by A. Wellesley Harris, M.R.C.S., D.P.H.

23 Th. Lecture to Meat Inspectors at the Institute, at 6 p.m., by J. R. Hayhurst, M.R.C.V.S., D.V.S.M. (Vict.), Superintendent, Metropolitan Cattle Market.

24 F. Lecture to Sanitary Officers, at 6 p.m. Factory and Workshop Acts, Smoke Legislation, Food and Drugs Acts, 1899, by A. Wellesley Harris, M.R.C.S., D.P.H.

24 F. Lecture to Health Visitors and Child Welfare Workers, at 6 p.m. Personal Hygiene, Importance of Cleanliness, by J. A. H. Brincker, B.A., M.D., D.P.H.

27 M. Lecture to Sanitary Officers, at 6 p.m. Duties of a Sanitary Inspector-General, A.—Outdoors, by A. Wellesley Harris, M.R.C.S., D.P.H.

27 M. Lecture to Health Visitors and Child Welfare Workers, at 6 p.m. The Growth and Development of the Child, by J. A. H. Brincker, B.A., M.D., D.P.H.

28 Tu. Demonstration to Sanitary Officers, at the Public Health Offices, 10, Compton Terrace, Upper Street, Islington, N., at 6 p.m. Book-keeping as carried out in a Sanitary Inspector's Office, by James R. Leggatt, Superintendent, Public Health Department.

29 W. Inspection and Demonstration at L.C.C. Municipal Lodging House, Kemble Street, Drury Lane, W.C., at 2.30 p.m.

29 W. Lecture to Health Visitors and Child Welfare Workers, at 6 p.m. Hygiene of the Special Senses, by Letitia Fairfield, M.D., D.P.H.

30 Th. Lecture to Sanitary Officers, at 5 p.m. Duties of a Sanitary Inspector-General, B.—Indoor, by A. Wellesley Harris, M.R.C.S., D.P.H.

OCTOBER.

1 F. Lecture to Sanitary Officers, at 6 p.m. Duties of a Sanitary Inspector.—C: Offensive Trades and Trade Nuisances, etc., by A. Wellesley Harris, M.R.C.S., D.P.H.

OCTOBER.

1 F. Lecture to Health Visitors and Child Welfare Workers, at 6 p.m. Physical Development, by Letitia Fairfield, M.D., D.P.H.

2 S. Demonstration—Meat Inspectors, at Metropolitan Cattle Market, at 1.30 p.m.

2 S. Inspection and Demonstration in the District of Chiswick, at 2.30 p.m. Conducted by J. H. Clarke, Chief Sanitary Inspector, Chiswick.

4 M. Lecture to Sanitary Officers, at 6 p.m. Elementary Science: Physics, Chemistry, by Alan E. Munby, M.A., F.R.I.B.A.

4 M. Lecture to Health Visitors and Child Welfare Workers, at 6 p.m. Physical Conditions affecting Health in Schools, by Letitia Fairfield, M.D., D.P.H.

5 Tu. Lecture to Sanitary Officers, at 6 p.m. Elementary Science: Physics, Chemistry, by Alan E. Munby, M.A., F.R.I.B.A.

6 W. Inspection and Demonstration in the District of Islington, at 2.30 p.m. Conducted by James R. Leggatt, Supt., Public Health Dept., Islington.

6 W. Lecture to Sanitary Officers, at 6 p.m. Elementary Science: Physics, Chemistry, by Alan E. Munby, M.A., F.R.I.B.A.

7 Th. Lecture to Meat Inspectors at the Institute, at 6 p.m., by J. R. Hayhurst, M.R.C.V.S.

7 Th. Lecture to Health Visitors and Child Welfare Workers, at 6 p.m. Duties and Powers of Health Visitors, by G. F. Buchan, M.D., D.P.H., M.O.H., Willesden.

8 F. Lecture to Sanitary Officers, at 6 p.m. Elementary Science: Physics, Chemistry, by Alan E. Munby, M.A., F.R.I.B.A.

8 F. Lecture to Health Visitors and Child Welfare Workers, at 6 p.m. Home Economics and Cookery, by Mrs. K. Lomax-Earp.

8 F.
9 S. } Examinations—York.

9 S. Inspection and Demonstration at the Aylesbury Dairy Company's Premises, St. Petersburgh Place, Bayswater, at 2.30 p.m. Conducted by P. B. Tustin.

11 M. Demonstration to Sanitary Officers in the Parkes Museum, at 5.30 p.m., by the Director, E. White Wallis, F.S.S.

11 M. Lecture to Sanitary Officers, at 6 p.m. Elementary Statistics, by Joseph Priestley, M.D., D.P.H., M.O.H., Lambeth.

13 W. Inspection and Demonstration, at 3 p.m., at Messrs. E. Cook & Co.'s Soap Works, Bow.

13 W. Lecture to Sanitary Officers, at 6 p.m. Infectious Diseases, by Joseph Priestley, M.D., D.P.H.

13 W. Lecture to Health Visitors and Child Welfare Workers, at 6 p.m. Hygiene of the Home, by Mrs. S. Seekings Friel, M.D., D.P.H.

14 Th. Lecture to Sanitary Officers, at 6 p.m. Methods of Disinfection, by Joseph Priestley, M.D., D.P.H.

15 F. Lecture to Sanitary Officers, at 6 p.m. Water: Composition, Pollution and Purification, by Joseph Priestley, M.D., D.P.H.

15 F. Lecture to Health Visitors and Child Welfare Workers, at 6 p.m. Sociological Conditions, by Mrs. S. Seekings Friel, M.D., D.P.H.

15 F.
16 S. } Examinations—Nottingham.

15 F.
16 S. } **Sessional Meeting, Doncaster.**

16 S. Demonstration—Meat Inspectors, at Metropolitan Cattle Market, at 1.30 p.m.

16 S. Inspection and Demonstration at the Lambeth Disinfecting Station, at 2.30 p.m. Conducted by Joseph Priestley, M.D., D.P.H.

LIST OF MEMBERS AND ASSOCIATES.

ELECTED MAY, 1920.

MEMBERS.

* Marked thus have passed the Examination of the Institute in Sanitary Science as applied to Buildings and Public Works.
‡ Marked thus have passed the Examination of the Institute for Inspectors of Nuisances.
m Marked thus have passed the Institute's Examination for Inspectors of Meat and other Foods
s Marked thus have passed the Examination of the Institute in School Hygiene
v Marked thus have passed the Institute's Examinations for Women Health Visitors and School Nurses.
§ Marked thus have passed the Examination of the Institute for Sanitary Surveyors or Sanitary Inspectors, India.
w Marked thus have passed the Institute's Examination for Maternity and Child Welfare Workers.

Reg. No.		
4468	1920. May	BLACKETT, James Francis, M.D., B.S., D.P.H. (*M.O.H.*), *Hamsterley, Bloomfield Park, Bath.*
4469	1920. May	BROWN, Cuthbert, A.M.INST.C.E., *Engineer and Surveyor, Town Hall, Edmonton, N.*
4470	1920. May	BYSACK, Abinash C., B.E.(CAL.UNIV.), *Superintendent, Sanitary Works Division, The Tata Iron and Steel Co., Ltd., Jamshedpur, via Kalimati, B.N. Railway, India.*
4471	1920. May	CHOUTHOY, Narasinga Rao, L.S.E., *Krishnarajapur Street, Shimoga, Mysore State, India.*
4472	1920. May	‡CLAPHAM, Harry Hayes, B.SC., *14, Bearwood Road, Smethwick, Staffs.*
4491	1920. May	CREE, Major-General Gerald, C.B., C.M.G., c/o *Messrs. Holt & Co., 3, Whitehall Place, S.W.1.*
4473	1920. May	DAWES, Henry James, F.R.C.V.S., *"Camden House," West Bromwich, Staffs.*
4474	1920. May	DOUGLAS, Alexander, M.R.C.V.S., D.V.S.M.(VICT.) *17, Wellington Square, Ayr, Scotland.*
4475	1920. May	FENTON, James, M.D., D.P.H. (*M.O.H.*), *Town Hall, Kensington, W. 8*
4476	1920 May	GLOVER, Vincent J., M.B., CH.B., M.D, (*M.O.H.*), *"Glen Avon," Crosby Road North, Waterloo, Lancaster.*
4477	1920. May	GOFTON, Arthur, F.R.C.V.S., *Veterinary Department, City Chambers, Edinburgh.*
4489	1920. May	*HOPKINS, Percy Alfred, *"Crossways," Bull Lane, Gerrards Cross, Bucks.*
4478	1920 May	HOWITT, Thomas Cecil, D.S.O., A.R.I.B.A., *Housing Department, Guildhall, Nottingham.*
4479	1920. May	LAHIRI, Probhas Chandra, *Sanitary Inspector, Howrah Municipal Office, Howrah, Bengal, India.*
4480	1920. May	MORRIS, Percy, M.INST.M.& C.E., M.S.A., *City Surveyor's Office, Town Hall, Wakefield.*

4486 1920. May ‡*w*NICHOLAS, Miss Beatrice, *"Sea End," Chinley, via Stockport.*

4481 1920. May OVER, Reginald Henry Holman, M.R.C.V.S., *24, Bath Street, Rugby, Warwickshire.*

4492 1920. May *PLANT, Clifford Ernest, *Central Technical College, Brisbane, Australia.*

4487 1920. May §SAMUEL, Purimolla L., *District Sanitary Inspector, H.E.H. The Nizam's Medical & Sanitation Dept., Raichur, Hyderabad, India.*

4482 1920, May SHANKS, William, *Tubal Works, Barrhead, near Glasgow.*

4483 1920. May *s*SKINNER, Arthur, L.C.P., *92, Northumberland Park, N. 17.*

4493 1920. May ‡*THOMAS, George Herbert, *2, Armfield Road, Enfield, Middlesex.*

4484 1920. May TIPPER, Lawrence Clarke, M.R.C.V.S., *Ribbesford, Wake Green Road, Moseley, Birmingham.*

4490 1915. Apr. ‡*VOGWELL, William Oswald, *130, Chalmers Street, Sydney, New South Wales.*

4488 1920. May *WINTER, Eric Rowley, *Borough Surveyor's Office, Guildhall, Grantham.*

4485 1920. May ‡WARWICK, William Atkinson, *Building Surveyor, 124, Well Lane, Birkenhead.*

ASSOCIATES.

8168 1920. May *m*‡BEAUMONT, Walter, *50, Goring Road, Stoke, Coventry.*

8169 1920. May ‡BEDFORD, Thomas, *33, Nashville Terrace, Keighley, Yorks.*

8170 1920. May ‡BLAYLOCK, Robert Theodore, *13, Westmoreland Street, Carlisle, Cumberland.*

8171 1920. May ‡BONE, Henry, *12, Archibald Place, Edinburgh.*

8172 1920. May ‡CRICKMORE, James Edward, *116, George Street, Altrincham, Cheshire.*

8173 1920. May ‡*m*DAVEY, Harold George, *100, Manchester Road, Barnoldswick, via Colne, Yorks.*

8174 1920. May ‡DEARMER, Thomas Edward, *19, First Lane, Springville, Hessle, E. Yorks.*

8175 1920. May ‡DENMAN, Arthur, *33, Cedar Road, Hale, Cheshire.*

8176 1920. May ‡GAVITT, Oliver Courtland, *Assist. Drainage Engineer, Glenorchy, Tasmania.*

8177 1920. May ‡GILL, Miss Phœbe, *35, Arnold Street, Birkby, Huddersfield.*

8195 1912. Apr. ‡GREENWOOD, Mrs. Florence Jane, *19, Great Percy Street, W.C. 1.*

8178 1920. May ‡GRIFFITH, Frank, *19, Hallam Street, Heaviby, Stockport.*

8179 1920. May sHATTERSLEY, Miss Constance Mary, *" Trinity House," Blackwall, E. 14.*

8180 1920. May ‡HENDERSON, Miss Jane Ann, *" Strathdean," St. James Road, Forfar, Scotland.*

8196 1905. Jan. ‡HEPWORTH, Evelyn, *Maria Hill, Ireland Island, Bermuda, W. I.*

8181 1920. May ‡HINDLE, John Arthur, *51, West Wood Street, Accrington, Lancaster.*

8182 1920. May ‡HOBKIRK, George Alvaro, *26, Cavendish Place, Jesmond, Newcastle-upon Tyne.*

8183 1920. May *v*HODGKINSON, Miss Annie, *41, Hillside Villas, Stockton Brook, North Staffs.*

8184 1920. May ‡HOGG, Sydney John, *Coast Guard Station, Dunbar, Scotland.*

8198 1920. May ‡HOWARTH, John Rowland, *Surveyor's Office, Bellingham, Northumberland.*

8185 1920. May sLOMAS, Miss Gertrude, *9, Onslow Road, Endcliffe, Sheffield.*

8186 1920 May ‡MACKAY, George Sinclair, *" Hilltop," Stemster, Halkirk, Caithness.*

8187 1920. May ‡MACPHAIL, Donald, *Westquarter Terrace, Redding, Polmont, Stirling.*

8189 1920. May ‡MCCLELLAND, Geoffrey, *Ellaby Road, Rainhill, Lancs.*

8197 1909. Oct. ‡NEAUM, Radford Arnold, *Albert Road, Bournemouth.*

8188 1920. May ‡SAMUEL, Thomas Lyall Anderson, *Stenton Terrace, Bridgend, Bathgate, Linlithgow.*

8190 1920. May ‡SMYTH, Richard Joseph, *Sanitary Inspector, Municipal Offices, Johannesburg, Transvaal, South Africa.*

8191 1920. May ‡WALKER, Arthur Clifton, *401, Newport Road, Middlesbrough.*

8192 1920. May ‡WALTERS, Edward Arthur, *High Street, Westbury-on-Trym, Bristol.*

8193 1920. May ‡YOUNG, George, M.C., *82, Main Street, Kilbride, Ayrshire.*

8194 1920. May ‡YOUNG, George Ernest, *1, Third Avenue, Teignmouth, Devonshire.*

JUNE, 1920.

MEMBERS.

4507 1920. June *BELL, George Edward, *51, Milton Street, Kingsley Park, Northampton.*

4194 1920. June CROXFORD, Charles Howis, *Engineer and Surveyor, Town Hall, Wood Green.*

4508 1920. June *EDSER, Victor Charles, *50, Arbour Square, E.1.*

4511 1920. June *FRASER, Hugh Donald, *Park House, Park Place, Cardiff.*

4495 1920. June GARDNER, John, A.M.INST.C.E., *Sewers & Rivers Dept., Council House, Birmingham.*

4509 1920. June *HYPHER, Francis Aloysius, *26, Durley Road, Stamford Hill, N.*

4496 1920. June KIBRIA, Maulvi Ghulam, B.SC.(GLASG.), *61, Gibson Street, Hill-head, Glasgow.*

4497 1920. June LAHIRI, Kesav Chandra, L.M.S. (CAL. UNIV.), *Sanitary Officer, Calcutta Corporation, 15, Linton Street, Entally, Calcutta, India.*

4498 1920. June LYONS, William Campbell, M.B., CH.B.EDIN. D.P.H. (*M.O.H.*), *Town Hall, South Shields, Co. Durham.*

4499 1920. June MACMILLAN, John, D.S.O., M.C., M.B., CH.B.GLAS., D.P.H. (*M.O.H.*) , *Town Hall, Woolwich, S.E. 18.*

4500 1920. June MADAPPA, Mysore Somiah, L.S.E., *Sanitary Engineer, Door No. 18, Gurkar Devanna's Street, Old Agrahar, Mysore, India.*

4510 1920. June *vw* MARTIN, Miss Lilian Mary, *18, Ripley Road, Seven Kings, Ilford.*

4501 1920. June MIDDLEBROOKE, Herbert Edwin, L.M.S.S.A. LOND., D.P.H.LIVERP. (*M.O.H.*), *Town Hall, Chorley, Lancs.*

4502 1920. June RAO, A. Seshagiri, L.S.E., *c/o Mr. B. I. L. Madhara Rao, Superintendent, Govt. Commercial Museum, Mysore, India.*

4503 1920. June SAUNDERS, William Eric Roper, M.R.C.S.ENG., L.R.C.P.LOND.,D.P.H.DURH.(*Assist.Sch.M.O.*), *19, Devonshire Place, Jesmond, Newcastle-upon-Tyne.*

4512 1920. June SINGH, Desh Hasi Raghubir, B.SC. (GLASG.), *Assistant Municipal Engineer, 2, Boulevard Road, Delhi, India.*

4504 1920. June SINHA, Amarneth, *Sanitary Inspector, 3/1, Sribash Dutt Lane, Howrah, Bengal, India.*

4505 1920. June ‡STONE, William James, *80, Keble Road, Bootle, Liverpool.*

4506 1920. June SUBRAHMANYAM, Vengappier Parithiyur, *The Office of the Sanitary Commissioner for Burma, Rangoon, Burma, India.*

4513 1920. June WODEHOUSE, Robert Elmer, M.D. *Apt. 8, 315, Kendal Avenue, Toronto, Ontario, Canada.*

ASSOCIATES.

8203 1920. June ‡ANSCOMBE, Percy Reginald, *Council Offices. Petersfield.*

8204 1920. June ‡BARKER, John, *Charles Street, McDonnell Estate, Milton, Brisbane, Queensland.*

8205 1920. June *v*BENSTED, Miss Fanny, *2, Devon Villas, Greenstreet, near Sittingbourne.*

8206 1920 June ‡BEST, Richard Albert, *1, Glen View Terrace, Aberavon, Port Talbot, Glam.*

8207 1920. June ‡BINNS, James Archibald, *6, Liston Road, Grafton Square, Clapham Common, S.W. 4.*

8208 1920. June ‡*m*BISHOP, Raymond Alfred, *11, Cromwell Avenue, Highgate, N. 6.*

8209 1920. June ‡BLACKMORE, Frank William, *38, The Broadway, Kettering.*

8255 1920. June ‡BLIZARD, Edward Ernest, *Town Engineer, Levuka, Fiji.*

8210 1920. June ‡BROCKWAY, Ernest Edgar, *Slades Cottages, Brox Road, Ottershaw, Chertsey, Surrey.*

8211 1920. June ‡BROWNE, Albert James, *24, Newcastle Hill, Bridgend, Glam.*

8212 1920. June ‡COLLINS, William Richard, *Council Offices, Lock Road, Ham, Surrey.*

8213 1920. June *v*CROWE, Miss Eileen Barrance, *14, The Vineyard, Richmond.*

8199 1920. June DALTON, William Henry, F.Z.S., F.R.H.S., *Supervisor of Rat Destruction, 15, West Park Road, Newport, Mon.*

8214 1920. June ‡DONALDSON, Miss Janetta Steven, *King Edward VII. Hospital, Cardiff.*

8215 1920. June *v*DORKINS, Miss May Providence, *123, Canterbury Road, Leyton, E. 10.*

8216 1920. June ‡DOWNING, Henry Edward, *22, Pembury Grove, Clapton, E. 5.*

8217 1920. June ‡FLOOKS, Charles John, *Council Offices,Bushey, Herts.*

8218 1920 June ‡GENT, Miss Eleanor, *23, Victoria Square, Clifton, Bristol.*

8200 1920. June GRANT, John MacDougall, *4, Wellesley Terrace, Princes Park, Liverpool.*

8219 1920. June *v*GRIFFITHS, Miss Ruth, *Post Office Buildings, Pontycymmer, Glam.*

8220 1920. June ‡GYPPS,William John, *The Causeway,Dunmow, Essex.*

8221 1920. June ‡HARVEY, Frederick Daniel, *50, Devonshire Road, Chiswick, W. 4*

8222 1920. June ‡HIBBARD, Mrs. Ethel Jermyn, *Cotleigh House, Hackenthorpe, near Sheffield.*

8223 1920. June ‡HOWARTH, Christopher Yates, *70, Queen Victoria Street, Mill Hill, Blackburn.*

8224 1920. June *v*HULME, Miss Alice, *138, London Road,Bishop's Stortford, Herts.*

8225 1920. June ‡HUTCHINSON, Benjamin Edward, *13, Bishop's Road, West Croydon.*

8226 1920. June *v*KEKWICK, Miss Ada Rosalind, *54, Savage Gardens, New Beckton.*

8227 1920. June ‡LEONARD, William, *5, Knowe Terrace, Inverkeithing, Fife, N.B.*

8228 1920. June ‡LOCK, Miss Flora M., *19, Glynrhondda Street, Cardiff.*

8201 1920. June MACVEY, Robert Wishart, *Burgh Chambers, Kelso, Roxburgh, Scotland.*

8229 1920. June ‡MCGILL, Duncan Grieve, *Nithbank, Dumfries, Scotland.*

8230 1920. June ‡MARTIN, William, *188, Mount Pleasant Road, Tottenham, N.*

8231 1920. June ‡MORRIS, James Jack, *29, Brougham Street, Edinburgh.*

8232 1920. June *s*ORCHARD, Miss Constance, *6, Kingsley Road, Forest Gate, E. 7.*

8233 1920. June ‡OWENS, Brinley David, *70, Cecil Street, Manselton, Swansea.*

8234 1920. June *v*PARNELL, Miss Mary, *155, Powerscourt Road, North End, Portsmouth.*

8235 1920. June ‡PEACOCK, John William, *33, Upperthorpe, Sheffield.*

8236 1920. June ‡PERKINS, Frank King, *Carlbourne Villas, Menston, near Leeds.*

8237 1920. June *v*PHILLIPS, Miss Hilda Margaret, *34, Lavender Gardens, S.W., 11.*

8238 1920. June ‡PHILPS, Ernest T. H., *Box 1,991, Calgary, Alberta, Canada.*

8239 1920. June *v*POTTS, Miss Florrie Pleasant, *"The Olives," Pinfold Lane, Methley, near Leeds.*

8240 1920. June ‡RICHARDS, Henry George, *The Nest, Lyme Road, Axminster, Devon.*

8241 1920. June ‡ROMAN, Stanislaw Joseph, *50, Abram Gate, Manchester Road, Bradford, Yorks.*

8242 1920. June ‡ROWLAND, Bertram Ambrose, *"Mayfield," The Broadway, Hendon, N.W. 9.*

8243 1920. June *s*SCARLETT, Miss Lily Winifred Ellis, *53A, Kendon Road, Clapham, S.W. 4.*

8244 1920. June ‡SCOTT, Edward, *Municipal Offices, Dyne Road, Kilburn, N. W. 6.*

8245 1920. June ‡SIDDLE, Frederick Edwin, *91, Fairfoot Road, Campbell Road, Bow, E. 3.*

8246 1920. June *m*‡SMITH, Frank Radford, *29, Outwoods Street, Burton-on-Trent, Staffs.*

8256 1920. June ‡STRATTON, Arthur, *114, Revelstoke Road, Southfields, S.W. 18.*

8247 1920. June ‡SUTCH, Frank, *Borough Council Depot, Knott Street, Deptford, S.E., 8.*

8248 1920. June *v*THOMAS, Miss Ethel Alice, *45, Norroy Road, Putney, S.W.*

8249 1920. June *v*WALTERS, Miss Mary C. D., *16A, Park Road, West Dulwich, S.E. 21.*

8250 1920. June ‡WHITLEY, Edward Ernest, *Church Avenue, Tryddyn, near Mold, Flint.*

8251 1920. June ‡WILLIAMS, Arthur Sydney, *Frogmore Villa, Pontyates, Kidwelly, Carmarthenshire.*

8252 1920. June ‡*m*WILLIS, Edwin Ernest, *30, Hornsey Rise, N. 19.*

8253 1920. June *v*WOOD, Miss Jessie Emily, *15, Bulstrode Street, Welbeck Street, W. 1.*

8254 1920. June ‡WOODMAN, Albert John, *71, Bedford Road, Clapham, S.W. 4.*

8202 1920. June WOOLLCOMBE, Robert Lloyd, LL.D., *Barrister-at-Law, 14, Waterloo Road, Dublin.*

JULY 13TH, 1920.

FELLOWS.

1576 1902. *F1920. July* BURGESS, William Thomas, F.I.C., *20, Priory Road, Bedford Park, W. 4.*

3690 1914. *F1920. July* DIXON, Frederick John, M.INST.C.E., F.G.S., *Engineer's Office, 3, Paradise Street, Birmingham.*

1985 1905. *F1920. July* HART, George Adam, M.INST.C.E., *Pearl Chambers, E. Parade, Leeds.*

1957 1905. *F1920. July* HEMMING, Major-General Edward Hughes, C.M.G., R.E., *6, Clarendon Crescent, Eccles, near Manchester.*

1218 1898. *F1920. July* HUMPHREYS, Henry Howard, M.INST.C.E., *28, Victoria Street, S.W. 1.*

1433 1900. *F1920. July* HUMPHRIES, Herbert H., M.INST.C.E., *Council House, Birmingham.*

4357 1919. *F1920. July* SANDILANDS, John Edward, M.C., M.A.CAMB., M.D., M.R.C.S., L.R.C.P.LOND., D.P.H.CAMB., *Executive Health Officer, Bombay, India.*

3867 1915. *F1920. July* WILLOUGHBY, William Mason, B.A.CANTAB., M.D., D.P.H., *21, The Avenue, Gravesend.*

MEMBERS.

4514 1920. July ‡ABLETT, Joseph Henry, *Sanitary Engineer, "Pembroke," Grove Road, Woking, Surrey.*

4537 1920. July §ALI, Syed Shafqut, L.C.P. & S.(BOMB.), *Sair Station P.O., Sikandri Sarai, Bhopal, India.*

4538 1920. July ‡*Baker, Thomas William, *Smedley Street, West, Matlock, Derbys.*

4515 1920. July Bolton, Earl Stewart, M.D.UNIV.MANITOBA, *Medical Health Officer, Brandon, Manitoba, Canada.*

4541 1909. Dec. Buxton, J. Basil, F.R.C.V.S., D.V.H., *Brockwell Hall, Herne Hill, S.W. 24.*

4516 1920. July ‡Callaway, Albert Walter, M.INST.M. & C.E., *Engineer & Surveyor, Town Hall, Milton Regis, Kent.*

4517 1920. July Cosgrove, Matthew J., M.INST.M.E., *Assistant County Surveyor, Mayo County Council, Loughanemon, Claremorris, Co. Mayo, Ireland.*

4518 1920. July Dawes, Howard Winnington, M.R.C.V.S., *High Street, West Bromwich.*

4519 1920. July Guard, Keikhasroo Sorabji, L.S.E.BOMBAY, *3rd Floor, Contractor Building, Opt., Kama Baugh, New Charna Road, Bombay, India.*

4520 1920. July Holmes, William J., M.INST.M.E., *4, Moyola Terrace, Limerick, Ireland.*

4521 1920. July Holness, Bertram Frederic, A.M.INST.M. & C.E., *Borough Surveyor's Office, Tuns Gate, Guildford.*

4522 1920. July ‡Hudson, Robert, *1, Malvern Terrace, Swansea.*

4523 1920. July Humphreys, George William, C.B.E., M.INST. C.E., *Chief Engineer, London County Council, County Hall, Spring Gardens, S.W. 1.*

4542 1907. Nov. Khedkar, Raghunath Vithal, M.D., F.R.C.S., D.P.H., *12, Woburn Place, W.C. 1.*

4524 1920. July Lewis, Edward, L.R.C.P., L.R.C.S.ED., *Glamorgan County Council, County Hall, Cardiff.*

4525 1920. July Linton, Frederick Thomas Clarehill, M.A., M.B., CH.B., D.P.H., (*M.O.H.*), *Kildare, Rusthall, Tunbridge Wells.*

4526 1920. July Lonergan, Martin Joseph, M.INST.MUN.E., *Assistant County Surveyor, Clonmel, Co. Tipperary, Ireland.*

4527 1920. July Macpherson, Robert William, M.B., CH.B., D.P.H., (*M.O.H.*), *Town Hall, Workington, Cumberland.*

4528 1920. July Marsh, John Hedley, M.R.C.S., L.R.C.P., (*M.O.H.*), *Cumberland House, Macclesfield, Cheshire.*

4539 1920. July ‡*w*Molloy, Miss Mary, *11, Gloucester Place, Greenwich, S.E. 10.*

4529 1920. July Ponsford, George, M.INST.M. & C.E., *Engineer & Surveyor, Council Offices, Litherland, Lancs.*

4530 1920. July RAU, P. H. Lakshmana, L.S.E.BOMBAY, c/o P. H. Krishna Rau, Esq., M.A., *Assistant Commissioner, 87, Malles Waram, Bangalore, India.*

4531 1920. July RENNET, David, M.B.E., M.D., D.P.H., (*M.O.H.*), *Town Hall, Chester.*

4532 1920. July Row, Birra Venkatareddy Narayana, *c/o H. Adams, Esq., 60, Queen Victoria Street, E.C.4*

4533 1920. July SCRASE, Frank, F.R.C.S., L.R.C.P., D.P.H., (*M.O.H.*), *Town Hall, Haverstock Hill, N.W.*

4540 1920. July ‡*vw*SHEWELL, Miss Miriam, *161, College Road, Moseley, Birmingham.*

4534 1920. July SHIMMIN, Walter McNeil, A.M.INST.C.E., M.INST. M. & C.E., *City Surveyor, Town Hall, Hereford.*

4535 1920. July WALSH, James T., M.INST.MUN.E., *Borough Surveyor, Clonmel, Co. Tipperary, Ireland.*

4536 1920. July YUNGE-BATEMAN, Marcus George, M.R.C.S., L.S.A., D.P.H., (*M.O.H.*), *37, Kingsworth Gardens, Folkestone.*

ASSOCIATES.

8257 1920. July *v*BAILEY, Miss Hilda, *54, Vesta Road, Brockley, S.E.*

8258 1920. July ‡BARLOW, William George, *44, Hampton Road, Stockland Green, Erdington, Birmingham.*

8259 1920. July ‡BAXTER, Leonard Thomas, *12, Sportsbank Road, Catford, S.E.*

8260 1920. July ‡BIGGS, Miss Dora C., *c/o Housing Department, Moat Lane, Birmingham.*

8261 1920. July ‡BIRD, Reginald, *6, Firs Avenue, Ripon, Yorks.*

8262 1920. July ‡BOOTH, Joe, *c/o Messrs. Barker & Smith, 213, Commercial Road, Pietermaritzburg, Natal, S. Africa.*

8263 1920. July ‡BOYLAN, Miss Suzette, *35, Northenden Road, Sale, Cheshire.*

8264 1920. July ‡BURROWS, Frank Stanley, *30,* Bishopthorpe Road, York.

8265 1920. July ‡BURSTON, Arthur Richard, *Ash Villa, Worcester Road, Malvern Link, Worcs.*

8266 1920. July ‡CATON, Joseph, *40, College Grove Road, Wakefield.*

8267 1920. July *v*COOK, Miss Ellen Elizabeth, *42, St. Ann's Road, Barking.*

8268 1920. July *v*COOK, Miss Frances, *23, Meddon Street, Bideford, Devon.*

8305 1920. July COOK, Frederick Carpenter, *Town Hall, Chelsea, S.W. 3.*

8269 1920. July ‡COOKSON, Richard, *43, Ayres Road, Brook's Bar, Manchester.*

8270 1920. July ‡CRAPPER, Edgar Vincent, *33, Bedford Road, Birkenhead, Cheshire.*

8306 1920. July ‡DAVIS, William Henry, *Sanitary Inspector and Surveyor, U.D.C. Offices, Coleford, Glos.*

8271 1920. July *s*DE ST. PAER, Basile Henri Romeril, *45, Cemetery Road, Beeston Hill, Leeds.*

8272 1920. July *v*DUNSMORE, Miss Jessie, *Monsall Hospital, Manchester.*

8273 1920. July ‡ENGLISH, Percy Wilfred, *157, Wherstead Road, Ipswich.*

8274 1920. July ‡FITZPATRICK, Miss Anne T., *2, Manchester Road, Bury, Lancs.*

8275 1920. July ‡FREEMAN, Samuel Walter Charles, *151, Brecknock Road, Tufnell Park, N. 19.*

8276 1920. July *v*GODTSCHAILK, Miss Louisa Ethel, *Health Dept., Shire Hall, Durham.*

8277 1920. July *v*GOULDING, Miss Ethel Maud, *142, Grove Road, Clapham Park, S.W. 12.*

8278 1920. July ‡GRAHAM, John Sydney, *Richmond Hill Hotel, Richmond, Surrey. (Health Inspector, Municipal Offices, Shanghai, China).*

8279 1920. July ‡GREEN, Arthur, *Assistant Sanitary Inspector, R.D.C. Offices, Repton, Derbys.*

8307 1920. July *s*GLEGG, George, *13, Carberry Road, Cardigan Road, Leeds.*

8280 1920. July ‡HINDMARSH, John, *Healey, Riding Mill, Northumberland.*

8281 1920. July ‡HOARE, Francis Joseph, *76, Poole Road, Branksome, Dorset.*

8304 1914. Nov. ‡HORTON, William Herbert, *c/o Messrs Richardson & Cruddas, Second Line Beach, Madrason, India.*

8282 1920. July ‡*v*IRELAND, Miss Williamina Bertram, *The Club House, 83, Cartwright Gardens, W.C. 1.*

8283 1920. July *v*JAMESON, Miss Constance, *Ministry of Pensions Hospital, Becketts Park, Leeds.*

8284 1920. July ‡JONES, Morris, *Mensydd Llydam, Penrhyndeudraeth, Merioneth, Wales.*

8285 1920. July ‡MCCULLOUGH, Miss Ethel Ewart, *The Royal Victoria Hospital, Belfast.*

8286 1920. July ‡MILLER, William Moore, *Roseland, Andersontown, Belfast.*

8287 1920. July ‡MUSSON, Miss Anne Elizabeth, *29, William Road, West Bridgford, Notts.*

8288 1920. July ‡NAYLOR, Fred Crowther, *21, Whitelands, The Lanes, Pudsey, near Leeds.*

8289 1920. July *v*PALMER, Miss Mabel, *5, Barton Street, Gloucester.*

8290 1920. July *v*PRIDMORE, Miss Annie Elizabeth, *Northfields, Womersley, near Doncaster.*

8291 1920. July ‡RICHARDS, Percy Cyril, *The Square, Penkridge, Staffs.*

8292 1920. July ‡ROCHELL, Miss Myra, *40, Nelson Street, C-on-M, Manchester.*

8293 1920. July *s*SEAGO, Miss Muriel, *14, Lynton Gardens, Harrogate, Yorks.*

8294 1920. July ‡SHAW, George Herbert, *12, Dagger Lane, West Bromwich.*

8295 1920. July ‡SMYE, Herbert Edward, *4, Philip Road, Ipswich.*

8296 1920. July ‡TOOBY, William Sidney Charles, *5, Forest View Road, Manor Park, E.*

8297 1920. July ‡TWIDELL, Miss Louisa Kate, *43, Blandford Square, N.W. 1.*

8298 1920. July ‡WALKER, Granville, *18, Norlington Road, Leytonstone, E. 11.*

8299 1920. July ‡WALLINGFORD, Miss Alice Minnie, *37, Poo Road, Newtown, Montgomeryshire, N. Wales.*

8300 1920. July ‡WARD, Horace, *70, Stonyford Road, Wombwell, Yorks.*

8301 1920. July ‡WEBSTER, Miss Elizabeth, *19, Linton Avenue, Bury, Lancs.*

8302 1920. July ‡WEEKS, William Joseph, *Burke Street, West Croydon, South Australia.*

8303 1920. July ‡WILSON, Douglas, *Municipal Health Office, Singapore, Straits Settlements.*

JULY 23RD, 1920.

MEMBERS.

4543 1920. July BARRETT, John P., B.E., M.INST.MUN.E., *Assistant County Surveyor, Mayo County Council, Crossmollina, Co. Mayo, Ireland.*

4544 1920. July BILDERBECK, A. C. L. O'S. (Capt. I.M.S.), B.A., M.B., B.S., M.R.C.S., L.R.C.P., D.P.H., *c/o Messrs. Grindlay & Co., 54, Parliament Street, S.W. 1.*

4555 1920. July *vw*DALBY, Miss Norah Lilian, *7, Fairfield, Highgate, Walsall, Staffs.*

4546 1920. July FERGUSON, John Bell, M.B., CH.B., D.P.H., *(M.O.H.), Health Department, Council House, Smethwick.*

4545 1920. July FRIDERICIA, Louis Sigurd, M.D., *Professor of Hygiene, The University Institute of Hygiene, Ny Vestergade 11, Copenhagen, B, Denmark.*

4547 1920. July JACKSON, Alfred Ernest, A.M.INST.C.E., P.A.S.I., *Borough Engineer's Office, Town Hall, Southport.*

4548 1920. July MILNER, James Dalton, A.M.INST.C.E., M.INST. M. & C.E., *Assistant Director of Public Works, Zomba, Nyasaland, Africa. (Twyford, Beverley High Road, Hull).*

4549 1920. July MORTON, Edwin, M.A., M.D., C.M., D.P.H. (*M.O.H.*), *123, Woodstock Road, Oxford.*

4552 1920. July MUKERJI, Brahma Nath, *67, Belilios Lane, Howrah, Bengal, India.*

4550 1920. July PARR, Percy, B.SC. (TECH.), *180, Hodges Street, Wigan, Lancs.*

4551 1920. July PATERSON, William, M.I.MECH.E., *Amberley, Radlett, Herts.*

4553 1920. July RILEY, William Edward, R.B.A., F.R.I.B.A., M.INST.C.E., *6, Raymond Buildings, Gray's Inn, W.C.*

4554 1920. July WHITEHOUSE, Harold Beckwith, M.S.LOND., F.R.C.S., *52, Newhall Street, Birmingham.*

ASSOCIATES.

8316 1920. July ‡*m*BAILEY, Frank, *2, Badby Road, Daventry, Northampton.*

8308 1920. July *v*CARMICHAEL, Miss Emmie, *2, Great Charles Street, Birmingham.*

8309 1920. July ‡COOK, Miss Gladys, *315, Franklin Road, Kings Norton, Birmingham.*

8310 1920. July ‡CRUICKSHANK, Oliver D., *27, Cholmondeley Avenue, Opawa, Christchurch, New Zealand.*

8311 1920. July *v*DAVIDSON, Miss Charlotte Loudon, *23, Brighton Place, Portobello, Edinburgh.*

8312 1920. July ‡*m*HEMMING, Ernest Charles, *23, Ruskin Avenue, Cheetham Hill, Manchester.*

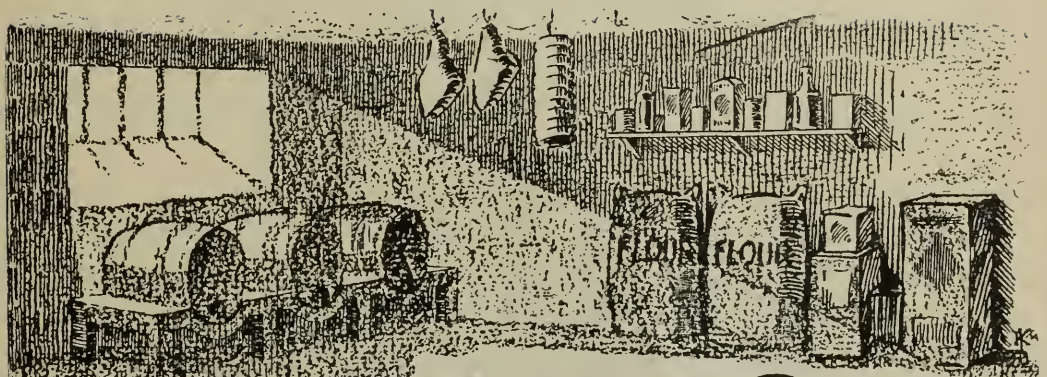
8313 1920. July ‡*m*POULTER, Lawrence, *7, Point Hall, Churwell, near Leeds.*

8314 1920. July *v*‡RALPH, Miss Ida Mary, *24, Pridmore Road, Coventry.*

8315 1920. July *v*REED, Miss Nina Ebrington, *Whipps Cross Hospital, Leytonstone, Essex.*

8317 1916. Nov. ‡VARNEY, Fred, *Westland Hospital Board, Hokitika, New Zealand.*

Clean Dry Cellars.



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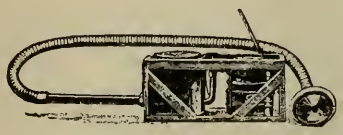

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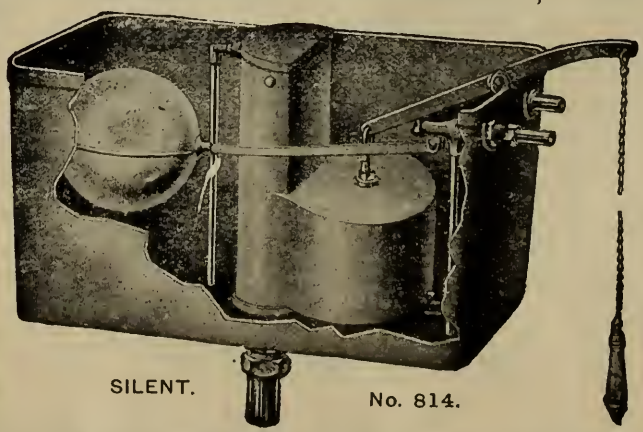

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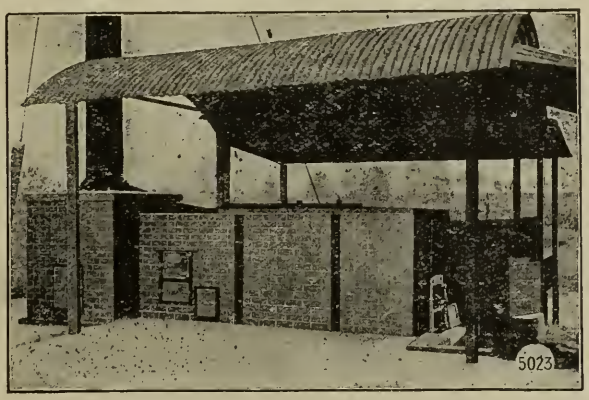

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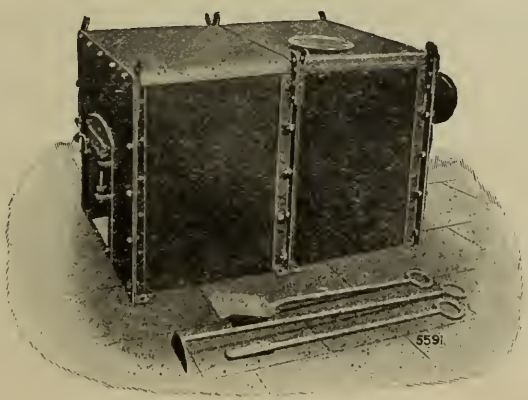

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